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# GENERAL DESIGN MEMORANDUM

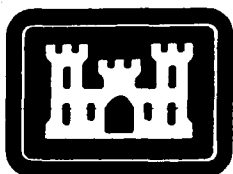
## GULFPORT HARBOR

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DESIGN MEMORANDUM NO. 1

APPENDIX F

REGIONAL IMPACT AND  
FINANCIAL ANALYSIS



**US Army Corps  
of Engineers**  
Mobile District

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) General impacts were calculated using MARAD's Portkit input/output model for increases in jobs, business sales, and state incomes, taxes and port revenues. CERL's EIFS input/output model was used to calculate project construction im- pacts. Several payback scenarios were analyzed from the state prospective for cost recovery of both the Corps deepening project and containeryard expansion project. A financial analysis included sources and uses of the state's share of costs of deepening the channel to 36 feet. <i>Keywords:</i>		

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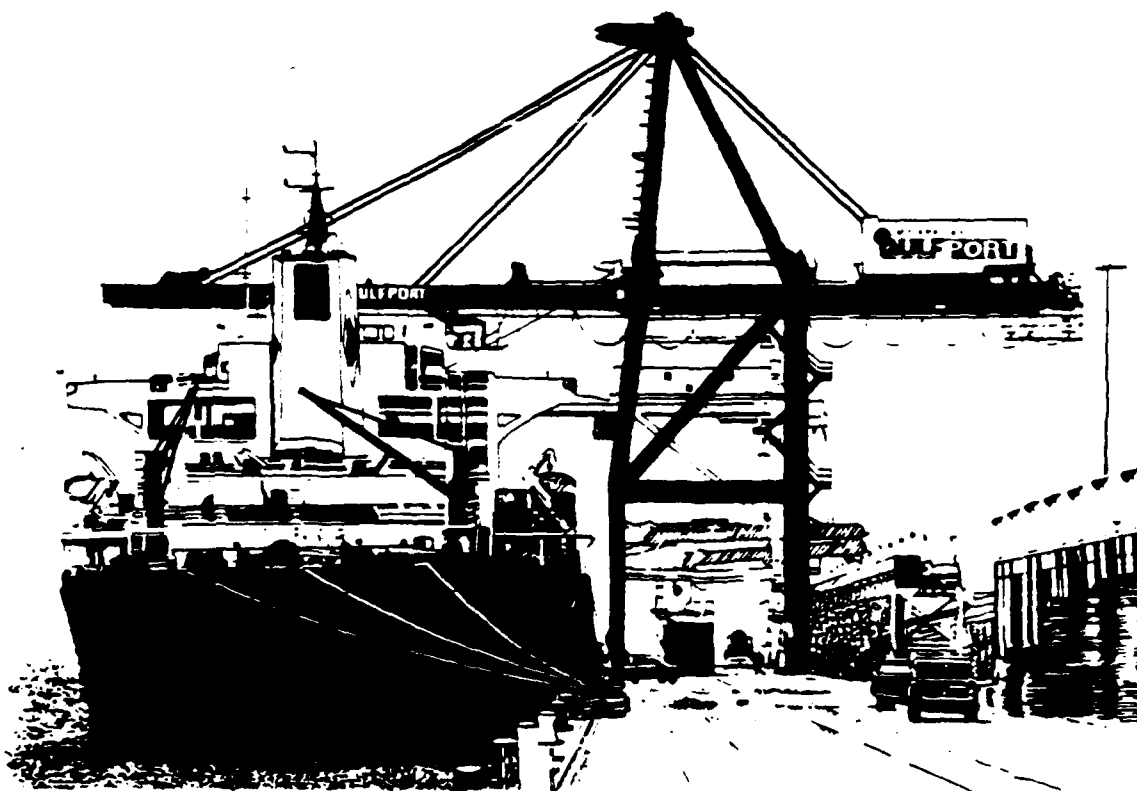
APPENDIX F

REGIONAL IMPACT AND  
FINANCIAL ANALYSIS



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# **Regional Impact, Financial and Cost Recovery Analysis for Proposed Gulfport Harbor Deepening and Containeryard Expansion Project**



**MARCH 1990**

**U.S Army Corps of Engineers  
Mobile District  
109 St. Joseph Street  
Mobile, Alabama 36628**

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## **I. EXECUTIVE SUMMARY**

## I. EXECUTIVE SUMMARY

This report estimates the economic impacts that are likely to occur from the deepening of Gulfport Harbor to 36 feet and the expansion of the containeryard storage space by 29 acres at the Mississippi State Port Authority at Gulfport. Total project cost is estimated to be approximately \$52 m. of which \$45 m. is for the Federally cost-shared channel deepening. Total expenses to the state of Mississippi are estimated to be \$22 m. Impacts were calculated for the local area (Harrison, Hancock and Jackson counties) and for Mississippi. For the purposes of this study, these counties are considered a single economic entity, but most of the impacts in the local area will occur within Harrison County. In this report the terms "local" and "regional" are used interchangeably.

The impact analysis is based on application of the Maritime Administration port economic input-output impact model, PortKit. The model calculates impacts of port activity on business sales, income, employment and taxes. Port revenues and direct impacts of port related activity are also generated. Properly applied, PortKit allows the researcher to develop multipliers of economic variables with more detail than a general purpose model.

Interviews of present and potential port clients were completed to provide the required inputs for the PortKit model. Container shipping lines were interviewed to ascertain the possibilities for container traffic at Gulfport Harbor. The interviews found significant interest in the port and the deepening project.

Estimates of impacts from the project were made for three areas: (1) construction; (2) net increases in income from lower transportation costs; (3) and port throughput. Construction benefits are one time impacts occurring during the construction period. Categories 2 and 3 are permanent, annually recurring benefits. Results are based on the 1995 completion date used in the General Design Memorandum. All costs and impacts shown in this report are in October, 1989 dollars.

Construction impacts are summarized in Table I-1. Direct expenditures in Mississippi are expected to total \$15.3 m. and lead to \$24.4 m. in business sales, \$10.5 m. in income to employees and firms in Mississippi and 617 jobs over the thirty four month construction period. Approximately 80 percent of the sales and income impacts and 84 percent of the jobs are expected to occur in the three county area. State and local taxes are projected to increase by \$1.2 m. with \$0.7 m. remaining in the local area.

**Table I-1. Summary Impacts of Construction for Gulfport Harbor  
Channel Deepening and Containeryard Expansion**  
(millions of October, 1989 dollars except for employment)

Area	Business Sales	Income	Employment	Taxes
State	24.4	10.5	617	1.2
Local Area	19.4	8.2	516	0.7

Source: Gulf Engineers & Consultants.

Permanent impacts from lower transportation costs and port throughput will grow as port throughput grows. Lower transportation costs should make Mississippi producers more competitive and increase income and employment.

Summary impacts from lower transportation costs and increased port throughput are presented in Table I-2. Base year impacts include increases in sales of \$21.4 m., income of \$6.5 m., employment of 351 and tax receipts of \$0.9 m. These impacts are annually recurring and in fact should increase as tonnage increases.

Over time the construction, net income and throughput impacts can be compared to project expenses in order to calculate cost recovery or payback periods. Under the most likely scenario, increases in net income to Mississippians pay back the investment made by the state of Mississippi after two years of port operation with the deeper channel. For cost recovery from taxes and port revenue, the break even point occurs after eight years of port operation. State tax receipts recover costs near the end of the thirty year period of analysis.

**Table I-2. Summary Annual Impacts for Gulfport Harbor Deepening and  
Containeryard Expansion Project, Most Likely Scenario**  
(October, 1989 dollars except for employment)

Category	Local Impacts	State-Wide Impacts
Sales	18,788,445	21,360,921
Income	5,629,597	6,505,053
Employment	315	351
Taxes	494,983	871,870

Source: Gulf Engineers & Consultants.

## II. INTRODUCTION

## II. INTRODUCTION

The purpose of this study is to evaluate the economic impacts to the local and state economies due to the Gulfport Harbor Channel Deepening and Containeryard Expansion project. For the purpose of this study, the local region will be defined as the coastal counties of Harrison, Hancock and Jackson, Mississippi. The area is entirely encompassed in the two SMSA's of Biloxi-Gulfport (Hancock and Harrison counties) and Pascagoula (Jackson County) and contains 1,790 square miles. The port of Gulfport (officially the Mississippi State Port Authority at Gulfport) is located in Harrison County.

This chapter describes the demographic and economic characteristics of the local region and state including population, employment, taxation and income. Projections of population, employment and income are provided to the year 2035. The layout, facilities, management, tonnage throughput figures and revenue and expenses of the port at Gulfport are described. A brief description of the port's major clients follows. Finally, the channel deepening and containeryard expansion project is described.

### Demographic and Economic Characteristics of the Region and State

#### Population

Population data for the study area, the state and the nation are presented in Table II-1. The population of the local region in 1986 was 332,400 or 12.7 percent of the state population. The 1986 state population was 2,625,000. The population growth rate of the region from 1970 to 1986 was 37.6 percent, outpacing both state and national growth rates of 18.2 percent and 18.3 percent, respectively.

#### Income

Total personal income and per capita income for the local region, the state and the nation are presented in Table II-1. Total regional income in 1986 was \$3.4 billion, accounting for 13.48 percent of Mississippi's total personal income of \$25.4 billion. The local region experienced faster growth in total personal income than both the state and nation; while the state growth rate was larger than the national increase.

Per capita income in 1986 was \$10,320 for the local region, \$9,697 for the state and \$14,639 for the nation. Although lower than national and regional per capita incomes, the state per capita income grew at a faster rate from 1970 to 1986, increasing by 373 percent,

Table II-1. Population, Total Income and Per Capita Income, 1970 - 1986  
(actual dollars)

POPULATION	1970	1975	1980	1985	1986	PERCENT CHANGE 70' - 86'
STUDY AREA	241,500	277,000	301,600	327,900	332,400	37.64
MISSISSIPPI	2,221,100	2,399,900	2,526,700	2,614,400	2,625,000	18.18
US	203,798,900	215,456,500	227,254,900	238,697,800	241,036,300	18.27
TOTAL INCOME (\$1,000's)	1970	1975	1980	1985	1986	PERCENT CHANGE 70' - 86'
STUDY AREA	733,673	133,703	2,270,971	3,077,999	3,430,477	367.58
MISSISSIPPI	5,767,677	9,937,910	17,499,872	24,241,938	25,454,041	341.32
US	825,534,000	1,308,482,000	2,254,076,000	3,320,346,000	3,528,589,000	327.43
PER CAPITA INCOME	1970	1975	1980	1985	1986	PERCENT CHANGE 70' - 86'
STUDY AREA	3,038	4,836	7,530	9,387	10,320	239.70
MISSISSIPPI	2,597	4,141	6,926	9,273	9,697	273.39
US	4,051	6,073	9,919	13,910	14,639	261.37

Source: Bureau of Economic Analysis, Regional Economic Information System, April 1988.

Table II-2. 1988 Civilian Labor Force Profile

Area	Civilian Labor Force	Number Employed	Percent Unemployed
Local Region	140,921	129,173	8.34
State	1,144,000	1,048,000	8.39
United States	121,740,000	115,036,000	5.50

Source: Bureau of Labor Statistics.

while national and regional growth rates were 261 percent and 239 percent, respectively, over the same time period.

#### Employment Profile

A brief labor force profile for 1989 for the local region, the state and the nation is presented in Table II-2. The local region, which accounts for 12.3 percent of the state labor force, has a civilian labor force of 140,921. With 129,173 individuals employed, the region has an unemployment rate of 8.3 percent. The state unemployment rate for 1988 was 8.4 percent with 1,048,000 of the 1,144,000 individuals in the civilian labor force employed. Both the regional and the state unemployment rates were much higher than the nation's unemployment rate of 5.5 percent.

#### Industrial Structure

The largest private industries in the three county region and the state in 1986, as indicated by employment and earnings by major industry were manufacturing, services and retail trade (tables II-3 and II-4). In the manufacturing industry, the largest employers in the local region are ship and oil rig construction and repair and petroleum processing. Overall, government enterprises accounted for the largest payroll and number of employees for the region, while it accounted for the second largest industry by payroll and number of employees in the state. On the national level, only the order of the major industries changed; the largest employers are services, retail trade and manufacturing, while the largest payrolls were in the service, manufacturing and retail trade industries.

Table II-3. Total Full-time and Part-time Employment, Local Area, 1970-1986

Industry	1970	1975	1980	1985	1986
Total Employment	108,351	130,007	140,318	145,552	152,480
Wage and Salary Employment	99,293	118,510	126,004	127,540	133,525
Proprietors	9,058	11,497	14,314	18,012	18,955
Farm	643	824	1,118	1,070	1,022
Non-Farm	107,708	129,183	139,200	144,482	151,458
Private	69,465	88,555	96,740	102,960	107,569
Ag Serv., For., Fish., & Other	515	576	950	1,091	1,095
Mining	314	230	247	171	148
Construction	7,575	7,281	9,855	7,765	8,732
Manufacturing	21,376	32,979	26,871	26,479	27,234
Transportation & Public Utilities	3,799	4,486	5,987	5,850	5,919
Wholesale Trade	2,210	3,448	3,926	3,890	3,854
Retail Trade	13,139	15,993	20,824	24,018	25,599
Finance, Insurance & Real Estate	3,532	4,672	5,929	7,278	7,823
Services	17,005	18,890	22,151	26,418	27,165
Government and Govt. Enterprises	38,243	40,628	42,460	41,522	43,889
Federal, Civilian	7,354	8,086	8,665	9,244	9,483
Military	20,429	19,659	18,415	16,812	18,618
State & Local	10,460	12,883	15,380	15,466	15,788

Source: Bureau of Economic Analysis, Regional Economic Information System, April, 1988.

Table II-4. Personal Income and Earnings, Local Area, 1970-1986  
(actual dollars)

Industry	1970	1975	1980	1985	1986
	(thousands of dollars)				
Total Personal Income	733,673	1,339,703	2,270,971	3,077,999	3,430,477
Non-Farm Personal Income	731,115	1,337,071	2,267,946	3,072,522	3,425,084
Farm Income	2,558	2,632	3,025	5,477	5,393
Population	241,500	277,000	301,600	327,900	332,400
Per Capita Personal Income (\$)	3,038	4,836	7,530	9,387	10,320
Total Earnings by Place of Work					
Farm	679,676	1,188,113	1,861,366	2,544,719	2,718,341
Non-Farm	2,558	2,632	3,025	5,477	5,393
Private	677,118	1,185,481	1,858,341	2,539,242	2,712,948
Ag Serv. For. Fish, & Oth.	456,864	846,136	1,351,317	1,785,554	1,917,308
Mining	3,140	4,835	8,156	11,048	12,303
Construction	1,906	3,617	7,019	6,129	5,926
Manufacturing	55,349	72,033	151,119	136,961	157,120
Non-Durable Goods	187,315	420,940	546,321	716,491	762,706
Durable Goods	50,549	84,109	149,789	215,805	220,978
Transportation & Public Utils	136,766	336,831	396,532	500,686	482,586
Wholesale Trade	28,127	49,720	102,727	140,635	143,596
Retail Trade	19,592	40,539	67,070	74,750	75,031
Finance, Insur. & Real Estate	59,462	96,465	174,371	244,158	258,539
Services	19,977	32,473	59,166	81,059	94,998
Government & Govt. Enterprises	81,996	125,514	235,368	374,323	407,089
Federal, Civilian	220,254	339,345	507,024	753,688	795,640
Military	62,632	100,902	156,204	230,977	228,457
State and Local	111,632	156,146	198,912	297,022	324,226
	45,990	82,297	151,908	225,689	242,957

Source: Bureau of Economic Analysis, Regional Economic Information System, April, 1988.

### Demographic and Economic Projections

Long-term OBERS demographic and economic projections for the state of Mississippi and the three county region, on a county basis, are available through the Bureau of Economic Analysis (BEA), Department of Commerce.

OBERS projections were developed using the step down method, which is based on the theory that historical data for larger areas are more accurate than the same data for smaller areas. On this basis, OBERS first develops national employment and income projections and then distributes these values among the states to develop state-level projections. State projections can be further distributed by OBERS methodology to obtain county-level projections. State and regional projections for total personal income, per capita income, population, earnings by industry and employment by industry for the years 1990, 2000, 2015 and 2035 are presented in tables II-5 through II-8.

#### Population

OBERS projections show the population of Mississippi growing at an annual rate of 0.46 percent to the year 2035 from 2.6 to 3.2 million. This increase will be accomplished by a 7.62 percent increase from 1983 to 2000 and 15.13 percent increase from 2000 to 2035. The regional population is projected to increase to 472,653 by 2035, an annual increase of 0.93 percent from 1983, doubling the growth rate of the state. The regional population is projected to increase 21.8 percent from 1983 to 2000 and 21.8 percent from 2000 to 2035.

#### Employment

Total employment for the state of Mississippi is projected to increase to 1,343,844 by 2035, a 0.6 percent annual increase from 1983. Employment is projected to increase 23 percent from 1983 to 2000, but only 6.6 percent from 2000 to 2035. The local region is projected to experience employment increases to 198,891 by 2035, a one percent annual increase from 1983. Regional employment from 1983 to 2000 is expected to increase by 35 percent while employment from 2000 to 2035 is projected to increase by only 12 percent.

#### Income

OBERS projected per capita income for Mississippi, in 1972 dollars, is expected to increase to \$8,161 by 2035, a 2.2 percent annual increase from 1983. Per capita income is projected to increase 46.7 percent from 1983 to 2000 and 45.7 percent from 2000

Table II-5. Total Personal Income, Actual and Projected, Local Area, 1973-2035

INDUSTRY	1973	1983	1990	2000	2015	2035
Total Personal Income	990,842	1,310,246	1,789,934	2,303,611	3,018,914	3,994,171
Population (number)	271,400	318,600	356,487	388,044	431,511	472,653
Per Capita Income	3,650	4,112	5,020	5,936	6,996	8,450
Per Capita Relative	77	75	77	80	82	83
Total Earnings	912,952	1,055,974	1,447,891	1,836,450	2,359,347	2,954,306
Farm	3,457	1,468	2,621	2,727	2,881	3,274
Ag. Serv., For., Fish.	2,713	2,230	3,370	5,012	6,876	8,814
Mining	1,260	1,156	1,553	1,882	2,337	2,844
Construction	57,050	89,458	87,624	108,834	136,902	170,360
Total Manufacturing	296,887	298,166	503,645	632,239	796,598	982,028
Non-Durable Goods	64,165	96,123	131,064	169,264	218,310	277,600
Durable Goods	231,319	202,043	372,581	462,975	578,288	704,428
Transp. & Public Util.	39,766	61,738	86,828	116,412	154,324	194,242
Wholesale Trade	18,465	26,645	35,740	45,692	60,866	76,149
Retail Trade	81,023	97,390	123,269	160,337	208,099	267,075
Finance, Ins. & R.E.	25,698	34,523	49,869	66,290	84,657	102,993
Services	88,615	139,949	197,271	283,937	402,822	532,521
Total Government	298,018	303,251	356,101	413,088	502,985	614,006
Federal, Civilian	79,393	92,413	116,030	138,578	172,772	212,810
Federal, Military	155,487	122,754	135,791	150,082	174,527	213,082
State & Local	63,138	88,084	104,280	124,428	155,686	188,114

Earnings and Total Personal Income are in thousands of 1972 dollars.

Per Capita Personal Income is in 1972 dollars.

Per Capita Relative: US = 100.

Source: Bureau of Economic Analysis, Regional Economic Information System, April, 1988.

Table II-6. Total Personal Income, Actual and Projected, State of Mississippi, 1973-2035

INDUSTRY	1973	1983	1990	2000	2015	2035
Total Personal Income	7,675,779	9,877,487	12,586,872	15,594,542	20,059,071	26,162,180
Population (number)	2,350,100	2,587,300	2,707,766	2,784,468	2,996,082	3,205,805
Per Capita Income	3,266	3,818	4,648	5,601	6,695	8,161
Per Capita Relative	69	70	72	76	79	81
Total Earnings	6,114,720	6,737,985	8,913,586	11,126,479	14,112,507	17,436,490
Farm	660,220	155,632	252,594	244,553	245,800	269,443
Ag. Serv., For., Fish.	24,390	29,047	37,941	50,844	65,475	80,198
Mining	56,001	122,700	164,130	199,044	248,334	303,218
Construction	361,566	384,495	536,181	646,846	802,567	988,465
Total Manufacturing	1,595,044	1,764,270	2,548,855	3,200,773	4,010,871	4,932,871
Non-Durable Goods	615,465	727,205	939,493	1,148,525	1,415,706	1,741,618
Durable Goods	979,579	1,037,066	1,609,362	2,052,248	2,595,165	3,191,253
Transp. & Public Util.	369,834	499,145	662,886	861,002	1,125,144	1,401,025
Wholesale Trade	263,681	379,095	481,059	586,151	752,219	915,663
Retail Trade	628,519	680,462	819,450	1,011,544	1,253,521	1,555,402
Finance, Ins. & R.E.	230,299	306,955	420,634	538,025	670,446	800,920
Services	721,344	1,047,513	1,446,348	2,021,645	2,787,304	3,607,585
Total Government	1,203,822	1,368,671	1,543,508	1,766,052	2,150,827	2,581,698
Federal, Civilian	251,204	287,285	329,788	378,132	462,129	560,820
Federal, Military	231,545	201,771	223,201	246,693	286,872	350,246
State & Local	721,073	879,615	990,519	1,141,228	1,401,827	1,670,631

Earnings and Total Personal Income are in thousands of 1972 dollars.

Per Capita Personal Income is in 1972 dollars.

Per Capita Relative: US = 100.

Source: Bureau of Economic Analysis, Regional Economic Information System, April, 1988.

Table II-7. Employment by Industry, Actual and Projected, Local Area, 1973-2035

INDUSTRY	1973	1983	1990	2000	2015	2035
Total Employment	120,017	131,299	156,254	176,901	194,192	198,891
Farm	1,130	851	866	852	796	746
Ag. Serv., For., Fish.	570	889	1,165	1,500	1,711	1,748
Mining	197	78	89	93	97	95
Construction	7,579	8,396	9,304	10,461	11,352	11,428
Total Manufacturing	28,980	23,306	33,493	36,587	38,157	37,764
Non-Durable Goods	7,186	7,882	9,567	10,939	11,777	12,053
Food & Kindred	ND	ND	2,353	2,518	2,464	2,303
Textiles	ND	ND	41	41	39	37
Paper & Allied	ND	ND	1,074	1,026	990	930
Chemicals & Allied	ND	ND	1,757	1,958	2,174	2,326
Petroleum Refining	ND	ND	1,304	1,494	1,680	1,780
Durable Goods	21,561	15,424	23,926	25,648	26,380	25,711
Primary Metals	ND	ND	423	504	552	564
Stone, Clay & Glass	ND	ND	1,046	1,106	1,153	1,125
Transp. & Public Util.	4,520	5,457	6,490	7,528	8,361	8,482
Wholesale Trade	2,103	3,419	4,088	4,754	5,546	5,850
Retail Trade	15,419	20,705	25,423	31,136	36,457	38,752
Finance, Ins. & R.E.	3,382	4,868	6,065	7,310	8,181	8,331
Services	16,621	21,334	26,055	32,481	38,396	41,162
Total Government	39,516	41,996	43,216	44,199	45,138	44,533
Federal, Civilian	7,823	8,901	9,630	9,991	10,347	10,225
Federal, Military	19,702	18,257	18,256	18,256	18,256	18,256
State & Local	11,991	14,838	15,330	15,952	16,535	16,052

ND = Not disclosed

Source: Bureau of Economic Analysis, Regional Economic Information System, April, 1988.

Table II-8. Employment by Industry, Actual and Projected, State of Mississippi, 1973-2035

INDUSTRY	1973	1983	1990	2000	2015	2035
Total Employment	987,820	1,025,092	1,151,385	1,260,905	1,343,634	1,343,844
Farm	117,182	83,662	81,249	76,492	68,913	62,931
Ag. Serv., For., Fish.	5,191	6,779	8,675	10,833	12,052	12,092
Mining	6,414	9,185	10,449	11,064	11,434	11,201
Construction	51,920	48,539	59,711	64,350	68,393	67,783
Total Manufacturing	225,175	209,909	253,296	272,469	278,842	272,707
Non-Durable Goods	97,977	95,467	105,987	110,705	110,694	107,484
Food & Kindred	19,948	22,677	24,367	25,565	24,984	23,713
Textiles	6,648	5,798	6,226	6,131	5,719	5,334
Paper & Allied	7,253	7,485	7,489	7,674	7,840	7,990
Chemicals & Allied	5,925	6,354	7,147	7,842	8,402	8,535
Petroleum Refining	1,415	1,998	2,150	2,405	2,721	2,942
Durable Goods	127,198	114,442	147,309	161,763	168,149	165,223
Primary Metals	2,305	3,212	4,288	5,297	5,857	6,019
Stone, Clay & Glass	7,203	5,756	6,618	6,844	6,998	6,736
Transp. & Public Util.	37,582	42,236	47,964	54,177	59,431	59,717
Wholesale Trade	29,073	43,346	49,456	54,976	61,826	63,454
Retail Trade	121,843	144,955	168,778	195,693	218,476	224,304
Finance, Ins. & R.E.	27,240	38,435	46,688	55,059	60,661	61,051
Services	162,732	182,690	211,375	250,783	285,217	297,219
Total Government	203,468	215,356	213,743	215,008	218,388	211,385
Federal, Civilian	23,756	27,159	27,344	27,517	28,079	27,441
Federal, Military	43,048	37,662	37,661	37,661	37,661	37,661
State & Local	136,664	150,535	148,738	149,830	152,648	146,283

Source: Bureau of Economic Analysis, Regional Economic Information System, April, 1988.

to 2035, in constant dollars. Regional per capita income is projected to increase to \$8,450 (1972 dollars) by 2035, a two percent annual increase from 1983. Regional per capita income from 1983 to 2000 is expected to increase by 44.4 percent, while it is expected to increase by 42.4 percent from 2000 to 2035.

### Taxes

In order to determine the impact of the Gulfport Harbor deepening and containeryard expansion project on government revenues, the appropriate government agencies were contacted to ascertain the tax structure of the state and local economies. The taxes of greatest concern are income, sales, gasoline and property taxes; although revenues are raised by other means, these are the revenues most likely to be impacted by the project. The following is a brief description of the assessment of these taxes.

#### Income Taxes

Individual and corporate state income taxes are assessed at three percent of the first \$5,000 of taxable income, four percent of the second \$5,000 of taxable income and five percent of taxable income over \$10,000. There are no local personal or corporate income taxes assessed in Mississippi.

#### Sales Taxes

State sales taxes are based on the gross proceeds of sales or the gross income and are applied to those engaged in any business in Mississippi. The major retail sales tax, which is assessed on the sale of personal property, is six percent. Other retail sales tax rates range from one percent for sales to electric utility companies, 1.5 percent on the sale of manufacturing machinery and three percent on the sale of automobiles, semitractors, mobile homes, aircraft and trucks.

There are no sales taxes assessed on the county level on the sale of personal property, but special county taxes are assessed in Harrison County on food and lodging. These special taxes include the Harrison County Coliseum Tax, a two percent tax on the retail sale of beer and alcoholic beverages and on the gross receipts of restaurants, hotels, and motels, and the Harrison County Tourism Commission Tax, a one percent tax on the gross proceeds from room rentals of all hotels and motels in Harrison County. These special taxes are assessed in addition to all other taxes imposed.

There is also a state use tax, which is applied on the most part at the same rates as the state sales taxes. The use tax is applied to personal property acquired for use, storage

or consumption within Mississippi on which a sales or use tax has not been paid to another state at an equal or greater rate than that of Mississippi.

#### Gasoline Taxes

There is an \$0.182 per gallon tax levied on gasoline and diesel fuel purchased within the state (including \$0.002 per gallon tax dedicated for environmental programs). Because of the likelihood of increased trucking within the state due to increased port throughput, this is a tax category for which substantially increased receipts may be expected.

#### Property Taxes

The values of property, upon which property taxes are assessed, are determined using the cost, market and income approach. Real property is classified into five categories. These categories and the percentage of the true value upon which property taxes are assessed are listed below:

<u>Property Classification</u>	<u>Description</u>	<u>Assessment (Percent)</u>
Class I	Single family, owner occupied dwellings	10
Class II	Non-single family, owner occupied dwellings	15
Class III	Business, personal property (tools, etc.)	15
Class IV	Public utilities	30
Class V	Motor vehicles	30

There are no property taxes assessed at the state level, but instead taxes are assessed by numerous special taxing districts (e.g. school, hospital and airport districts) in each county. The effective property tax rate for the three county region of Hancock, Harrison and Jackson counties is between \$11 and \$24 per \$1,000 of appraised property value.

## Port Description

### Location

The Port of Gulfport is located midway between New Orleans and Mobile on the Mississippi Sound in Harrison County, Mississippi. The port is served by U.S. Highway 90, a four-lane highway running east-west along the coast and U.S. 49, a four-lane highway connecting the port with Interstate 10 approximately 10 miles north of the port, Interstate 59 approximately 60 miles north of the port, and interstates 55 and 20 approximately 150 miles to the north. Interstate 10 provides access to New Orleans and Mobile, which are located about 80 miles to the west and east, respectively.

The port is located 16 miles from deep water shipping lanes and five nautical miles from the Intracoastal Waterway. The channel connecting the port with deep water shipping lanes has a project depth of 30-feet at mean low water. The port also includes a 26 acre commercial small boat harbor.

### Facilities

Port facilities are located on two parallel piers bounded on the north by U.S. Highway 90, as shown in Figure II-1. Over 5,000 linear feet of berth space is available along the piers. Rail spurs traverse the full length of both piers, providing rail access to the shipside and transit sheds and shipside freezers.

Shipside and transit sheds are available on both piers. Fourteen modern concrete and steel shipside sheds with 20 foot wide roll-up doors along both sides provide almost 400,000 square feet of storage space. These sheds are fire walled and equipped with sprinklers.

Foreign Trade Zone No. 92 is located on the West Pier. Foreign Trade Zones (FTZ) are areas where imported products or raw materials can be stored, processed and repackaged, or assembled with other U.S. products. Customs duties are only paid on products as they leave the FTZ.

Six transit sheds provide over 200,000 square feet of space for handling and bagging of bulk products, temporary storage, and storage of goods to be used in the Foreign Trade Zone. Two shipside freezers, located on the West Pier, provide 400,000 cubic feet of space with temperatures controls to 0°F. USDA inspections for certification are conducted on-site.

Container handling facilities are available at the Container Terminal located at the south end of the West Pier. Container handling equipment available includes two

PACECO container cranes and top loaders with a lift capacity of up to 45 tons that are capable of stacking containers three high. Lighted marshalling areas and a trailer-on-flatcar (TOFC) ramp are also available.

A large lighted open storage area is available on the East Pier. Container on flatcar (COFC) and trailer on flatcar (TOFC) transfers are handled in this area.

A helicopter pad is located at the south end of the East Pier. Helicopter service to the New Orleans area is available for passengers and cargo.

Terminal and parking facilities for a large cruise ship are also located on the East Pier. The ship offers regularly scheduled day and night cruises. It also provides a five day cruise to Cozumel, Mexico every month.

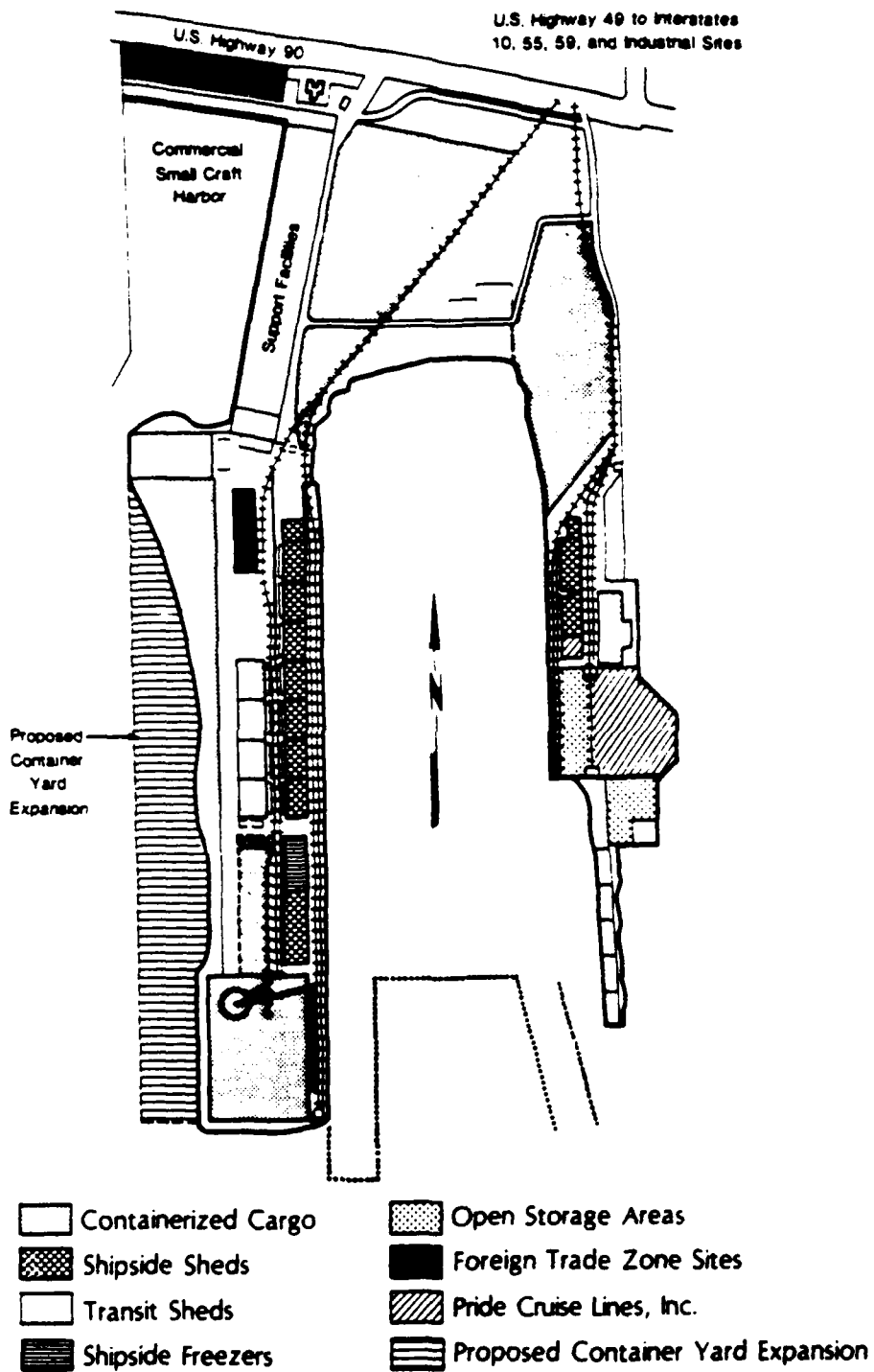
#### Railroads Serving the City of Gulfport

Two railroads, the CSX and the MidSouth cross the City of Gulfport. The CSX's trunk line, New Orleans to Mobile and further into Florida, is located in the northern section of the city. This is one of the most important lines operated by the CSX railroad and is maintained in excellent condition. According to the CSX's officials the maximum train speed at this line is 59 miles per hour. Gulfport and Pascagoula are the CSX's key interchange points on this line. In Gulfport the CSX interchanges with the MidSouth Corporation and, in Pascagoula, with the Mississippi Export Railroad Company. The MidSouth Corporation operates trains on the north-south route between Hattiesburg and Gulfport. This a former Illinois Central line. The line was purchased from the Illinois Central in 1986. The technical condition of track at this route has been significantly improved. In 1986 it was a 10 mile an hour route, and now it is a 25 mile an hour line. The Illinois Central provided three day a week service in 1986. The MidSouth Corporation currently operates trains six days a week.

#### Description of Rail Access to the Port of Gulfport

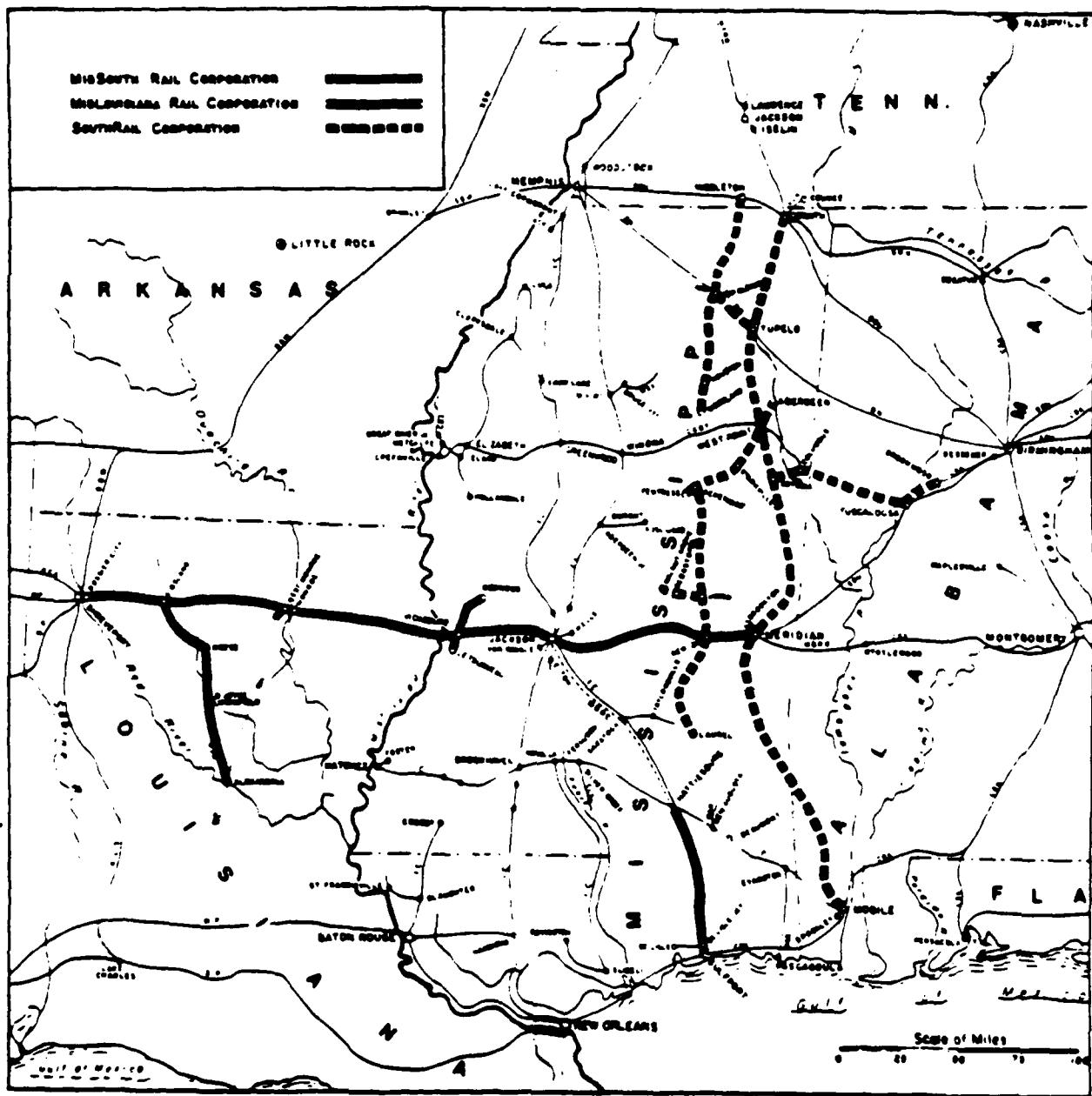
The Port of Gulfport is served exclusively by the MidSouth Rail Corporation (Figure II-2). The CSX does not have any switching facilities in Gulfport and uses the MidSouth yard for interchanging traffic. The MidSouth switching yard is located about 0.8 miles from the port docks. The yard serves two purposes: a) switching rail cars between the MidSouth and the Public Docks at the Port of Gulfport, b) interchanging rail cars between the MidSouth and the CSX.

Figure II-1. Port Layout, Mississippi State Port Authority at Gulfport



Source: Mississippi State Port Authority at Gulfport.

Figure II-2. MidSouth Rail Corporation Lines



Source: MidSouth Rail Corporation.

According to MidSouth officials the yard can accommodate up to 200 cars. If necessary the yard capacity can be easily increased to 400 cars. This would require some rehabilitation of the tracks already existing at the yard. Currently, the switching yard capacity is larger than the capacity of the docks. Therefore, there is no need for yard expansion at the present time. The MidSouth representatives indicated that even if the traffic increased by 100 percent it could still be expeditiously handled at the present yard.

The following major commodities interchanged by the CSX and the MidSouth were identified: newsprint for local newspapers, chemicals destined to the DuPont facility and other plants in the immediate area, and forest products shipped from the mill in Wiggins, Mississippi, to the Mobile region. Additionally, the CSX and the MidSouth Corporation interchange export/import cargo originating from and destined to the Port of Gulfport.

Customarily, traffic switched from the CSX to the MidSouth is pulled by the CSX locomotive, and traffic transferred from the MidSouth Corporation to the CSX is pulled by the MidSouth engine. However, in practice both railroads are very flexible in this matter.

There are no operational limitations in switching cars between the MidSouth's yard and the port Docks. Currently, cars are moved in the night to avoid interference with traffic in the city. However, if necessary, day time movements could also be facilitated.

#### Fees and Revenues

Table II-9 summarizes port revenues and expenses for fiscal years 1985 through 1989. This table shows the port going from barely making a profit in 1985 to losses in 1986 and 1987 and returning to profitability, providing money for port improvements, when state subsidies began and Harrison County increased the amount it allocates the port (ad valorem tax) in 1988. Prior to FY 1988, no state subsidies had been received by the port.

Operating revenues, from fees and leased properties, decreased from a high of almost \$3.9 million in FY 1985 to \$2.8 million in FY 1989. The decrease is primarily a result of decreased tonnages through the port. Operating revenues made up 85 percent of total port revenues in 1985. By 1989, operating revenues accounted for only 51 percent of total revenues.

At the same time operating revenues decreased, the port's debt (shown in the table as subsidies, loans, and grants) increased. Debt increased from slightly less than \$2 million in FY 1985 to over \$2.3 million in FY 1987 and FY 1988, and dropped to slightly less than \$2.3 million in FY 1989.

Table II-9. Mississippi State Port Authority at Gulfport, Statement of Revenues and Expenses

	FISCAL YEAR			
	1989	1988	1987	1986
Operating Revenues:				
Wharfage, Dockage, Mooring, Usage	971,479	1,231,215	1,450,183	1,603,055
Catenary & Crane	81,187	189,289	179,652	120,059
Leased Properties	1,051,591	1,011,376	1,002,847	934,687
Other Operating Revenues	729,998	789,221	1,026,206	790,894
Total Operating Revenues	\$ 2,834,255	\$ 3,221,101	\$ 3,658,888	\$ 3,448,695
Non-Operating Revenues:				
Ad Valorem Tax	942,649	1,296,160	550,863	629,197
Other Non Operating Revenues	276,148	165,975	423,348	230,283
State Appropriations	1,297,000	900,000	0	0
Total Non-Operating Revenues	2,515,797	2,362,135	974,211	859,480
TOTAL REVENUES	\$ 5,350,052	\$ 5,583,236	\$ 4,633,099	\$ 4,308,175
Operating Expenses:				
Personal Services				
Salaries, Wages & Fringe Benefits	861,099	851,426	1,253,034	1,264,892
Per Diem	5,360	4,520	4,800	4,760
Total Salaries, Wages & Fringe Benefits	866,459	855,946	1,257,834	1,269,652
Travel				
Travel & Subsistence (In-State)	316	1,824	3,688	1,328
Travel & Subsistence (Out-of-State)	6,700	8,735	6,669	13,661
Total Travel	7,016	10,559	10,357	14,989
Contractual Services				
Communications & Utilities	199,260	240,916	268,890	222,822
Advertising	5,375	9,741	9,570	9,335
Rents	8,099	9,157	42,288	15,228

Table II-9. (cont'd)

	FISCAL YEAR				
	1989	1988	1987*	1986	1985*
Contractual Services (cont'd)					
Repairs & Services	180,291	124,172	45,665	10,450	
Fees, Professional & Other Services	569,242	473,047	132,615	147,717	
Other Contractual Services	352,326	492,128	378,469	447,685	
Total Contractual Services	1,314,593	1,349,161	877,497	853,237	
Commodities					
Maintenance & Construction Supplies	30,167	49,601	8,657	584,187	
Printing & Office Supplies	15,602	16,565	11,468	10,934	
Equipment Repair Parts					
Supplies & Accessories	65,611	78,164	169,794	23,064	
Professional & Scientific	397	806	3,365	2,183	
Supplies & Materials	83,941	70,839	28,890	5,116	
Other Supplies & Materials					
Total Commodities	195,718	215,975	222,174	625,484	
Capital Outlay					
Equipment					
Office Machine, Furniture, Fixtures & Equipment	0	20,843	8,611	2,432	62,237
Sales Tax'		0	24,615*	9,548	
Subsidies, Loans & Grants	2,297,878	2,334,001	2,342,787	1,928,333	1,995,003
TOTAL EXPENDITURES	\$ 4,681,664	\$ 4,786,485	\$ 4,743,875	\$ 4,703,675	\$ 4,511,363
PROFIT / (LOSS)	\$ 668,388	\$ 796,751	\$ (110,776)	\$ (395,500)	\$ 32,956

'Detailed operating expenses for 1985 were unavailable.

\*For FY86 and FY87, sales tax paid by the port was shown as an operating expense. In FY88 and FY89, net sales tax paid and received is included in subsidies, loans and grants.

'Includes bad debt of \$94,509.

Source: Mississippi State Port Authority at Gulfport, Annual Reports.

Debt service accounts for a substantial part of total expenses. Debt as a percentage of total expenses increased from 44 percent in FY 1988 to 50 percent in FY 1987. With the increase in revenues from Harrison County and the addition of state funds, debt as a percentage of total revenues dropped to 42 percent in FY 1988 and 43 percent in FY 1989. Although it has been reduced relatively, debt remains a substantial percentage of total expenses.

### Management Structure

The Mississippi State Port Authority at Gulfport is governed by a five member Board of Commissioners. Three of these Commissioners are appointed by the Governor of Mississippi, one by Harrison County, and one by the City of Gulfport. They serve five year, staggered terms. They are paid \$40 per meeting.

The board meets twice a month. They set policy for the port, hire the port executive director, monitor tonnage reports, review bids for port-related work, monitor accounts receivable, approve all expenditures except payroll on a monthly basis and generally oversee port operations.

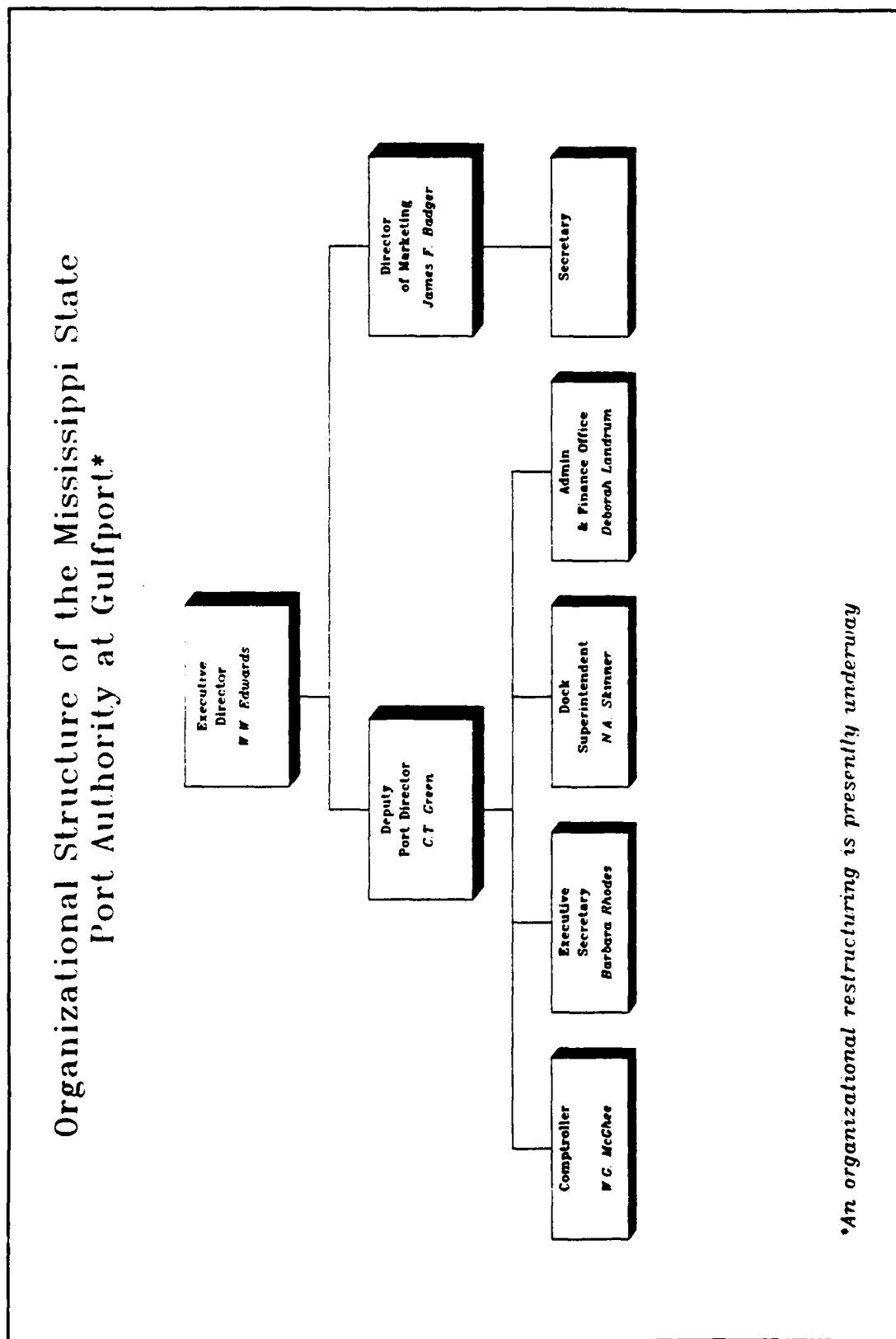
Port staff run the day to day operations at the port. As shown in the organization chart (Figure II-3 ), the staff is headed by an Executive Director, Mr. W.W. Edwards. He is responsible for directing port activities, including establishing current and long-range plans and policies (subject to approval of the board); the implementation of these plans and policies; representing the port with its customers and service agencies, the financial and trade communities, and the public; maximizing the use of port facilities; and encouraging new industrial development and the expansion of existing industries.

The Deputy Director, Mr. C.T. Green, performs administrative and supervisory tasks related to all port and physical plant operations. He is in charge of developing current and long range plans related to facilities, including recommendations for new construction; bears responsibility for proper operation of all port equipment; and represents the port authority before regulatory authorities and maritime industry groups. He is also responsible for maintenance, security and safety at the port.

In October 1989, a new position, that of Director of Marketing, was filled by Mr. James F. Badger. Mr. Badger came to Gulfport from the Port of New Orleans. He is responsible for implementing the port's marketing plan.

The port's comptroller oversees the business activities of the port authority. Responsibilities include outlining administrative and fiscal policies and procedures; ensuring

Figure II-3. Organizational Structure of the Mississippi State Port Authority at Gulfport



Source: Mississippi State Port Authority at Gulfport.

the timely preparation and review of financial reports to state and Federal regulatory agencies and for the port; and, through department heads, monitoring the activities of maintenance, purchasing, accounting and any other financial activities of the authority.

The port's Dock Superintendent administers and supervises all port and physical plant operations. The dock superintendent is responsible for developing current and long-range plans to ensure adequate facilities and recommending new construction; proper operation of all port equipment, including cranes and other handling systems; and maintenance, security, and safety controls.

The Administrative and Finance Officer directs the port's business activities. This person is responsible for developing and installing policies, procedures, and regulations governing the business administrative operations of the port and is responsible for all aspects of personnel policy.

#### Major Clients

The Port of Gulfport's major clients include Standard Fruit (Dole), United Brands (Chiquita), DuPont, and International Proteins. These companies are discussed in the following paragraphs.

##### **Standard Fruit and Steamship Company (Dole)**

Standard Fruit imported about 3,600 long tons (about 185 containers) of bananas, pineapples, and coconuts through the Port of Gulfport each week (or about 187,200 long tons per year) during calendar year 1988. In addition, the company exports about 1,500 long tons of paper products that are used to make boxes for the fruit and about 500 long tons of other goods each week. These products are shipped in containers to and from Central and South American ports. One ship arrives at Gulfport each week, where the fruit is unloaded and paper products and miscellaneous goods are reloaded. All products are containerized.

##### **United Brands Company (Chiquita)**

United Brands imports bananas and pureed fruit and exports small amounts of miscellaneous company-owned products in containers. In 1989, the company expects about 62 vessel calls: 52 ships loaded with bananas and 10 ships loaded with pureed fruit (in 55 gallon drums. Each weekly shipment consists of about 290 containers (about 5,000 long tons) of bananas. The company also backhauls about 290 containers each week; however, only 20 to 25 of these containers are loaded.

### **E.I. DuPont de Nemours & Company**

DuPont imports ilmenite ore needed by its titanium dioxide pigment plant in DeLisle, Mississippi, 14 miles from the port. In 1989, DuPont expects 15 shipments or about 167,700 short tons of ilmenite ore annually from Australia. This ilmenite, a dry bulk commodity, is shipped on "conbulklers," dry bulk carriers that have been modified to carry containers. These ships also unload and reload containers at the port; however, these containers are not to or from DuPont. Additional ilmenite ore is unloaded at the Port of New Orleans due to the lack of channel depth at Gulfport. This tonnage is barged and trucked to DeLisle.

### **International Proteins Corporation**

International Proteins imports fishmeal from Chile for use in fertilizer and pet food. From January to August 1989, over 23,000 tons of fishmeal were imported by the company in bulk form. International Proteins reports that it expects to increase its tonnage substantially in the coming year.

### **Port Setting**

#### **Cargo Flows: Tonnage by Commodity**

Inbound and outbound tonnage for fiscal year (FY) 1986 through FY 1989 are shown in Table II-10 and in figures II-4 and II-5. In FY 1989 tonnage through the port totalled almost 870,000, which is 27 percent less than in FY 1986.

In FY 1989, inbound bananas make up 58 percent of the total tonnage through the port. These bananas are shipped by truck primarily to areas outside the State of Mississippi, although some of the bananas are ripened in Jackson. Ilmenite, imported in bulk by DuPont, makes up an additional 20 percent of total tonnage (FY 1989). Additional tonnage includes inbound fishmeal and lumber and outbound linerboard, frozen cargo and bagged goods.

The majority of port tonnage is shipped either in dedicated banana container vessels with shipside unloading equipment (Standard Fruit and United Brands) or the ABC Containerlines' conbulklers described above. Various types of general cargo vessels ship most of the remaining tonnage. The container vessels that formerly provided liner service to the port (see Chapter IV) relied on Panamax sizes container vessels with drafts significantly deeper than the port's present depth.

Table II-10. Historic Tonnage Throughput, Gulfport Harbor, 1986-1989

COMMODITY	FY '86	FY '87	FY '88	FY '89
	(short tons)			
INBOUND				
Bananas	500,420	544,683	545,058	512,196
Pineapples	0	3,633	11,081	9,220
Coconuts	0	81	221	254
Container Cargo	89,530	73,604	56,513	24,432
Canned Goods	15,604	8,133	4,996	0
Fishmeal	27,644	23,928	13,242	14,554
General Cargo	4,359	568	0	241
Ilmenite Ore	195,893	215,226	227,280	175,848
Titanium Dioxide	0	819	0	0
Lumber	18,826	7,728	41,031	27,053
Woodpulp	3,610	5,049	8,077	1,735
Vehicles	0	147	0	0
Frozen Cargo	0	1,537	0	0
Steel	1,095	0	0	0
Steel Pipe	21,335	0	0	0
Explosives	0	9	0	811
Twine	0	69	0	0
Wax	0	1,364	0	0
Sugar	0	0	5,120	1,619
Beer	0	0	0	44
Melons	0	0	0	302
Bagged Goods	0	0	694	0
Total Inbound	878,316	886,578	913,313	768,309

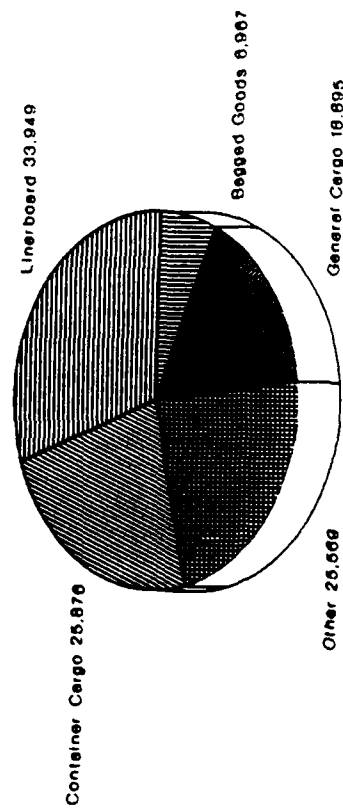
Table II-10. (cont.) Historic Tonnage Throughput, Gulfport Harbor, 1986-1989

COMMODITY	FY '86	FY '87	FY '88	FY '89
	(short tons)			
OUTBOUND				
Container Cargo	73,076	82,105	96,758	25,876
General Cargo	21,639	20,700	24,149	18,895
Linerboard	134,747	96,528	33,715	33,949
Puree (fruit)	7,250	10,716	8,064	6,010
Bagged Goods	25,110	11,222	1,534	6,967
Frozen Cargo	2,927	26,948	16,711	17,616
Explosives	160	251	699	279
Cotton	109	2,388	12,459	1,664
Animal Feed	10,260	0	0	0
Titanium Dioxide	33,100	27,578	1,242	0
Sugar	15,471	0	0	0
Fertilizer	4,610	0	720	0
Creosote Poles	1,777	2,520	0	0
Ammonium Nitrate	1,543	7,239	0	0
Soybean Meal	0	1,763	501	0
Rice	0	473	0	0
Wax	0	814	0	0
Woodpulp	0	0	547	0
Total Outbound	331,779	291,245	197,099	111,256
Total (Inbound and Outbound)	1,210,095	1,177,823	1,110,412	879,565

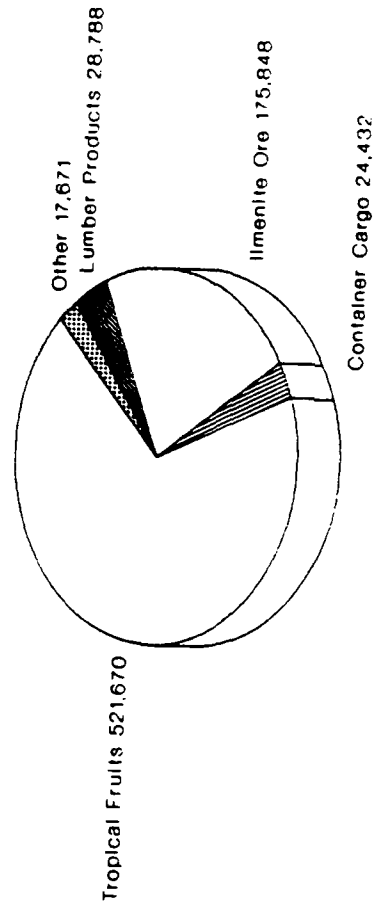
Source: Mississippi State Port Authority at Gulfport.

Figure II-5. Cargo Tonnage at Gulfport Harbor, 1986-1989

### 1989 OUTBOUND CARGO (in tons)



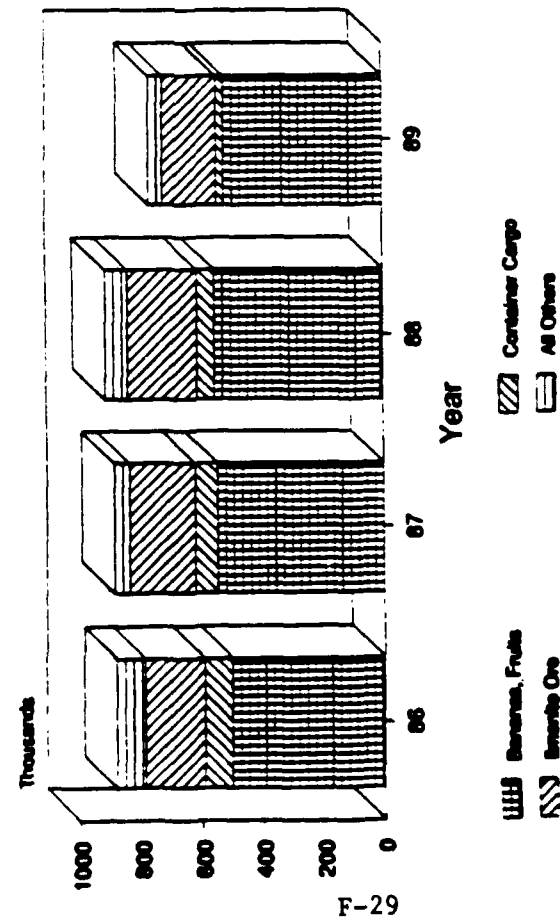
### 1989 INBOUND CARGO (in tons)



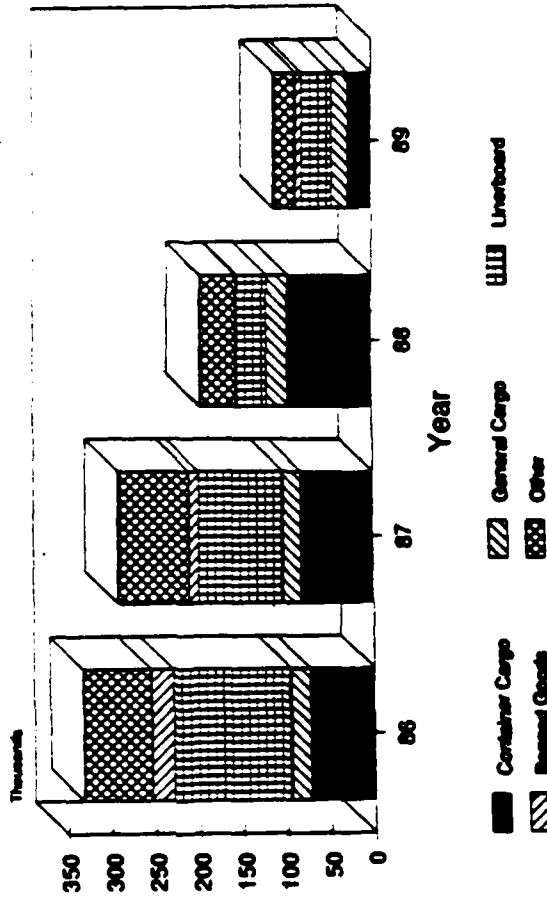
Source: Mississippi State Port Authority at Gulfport

Figure II-5. Cargo Tonnage at Gulfport Harbor, 1986-1989

# INBOUND SHIPMENTS, 1986-1989 (In Tons)



# OUTBOUND SHIPMENTS, 1986-1989 (in tons)



Source: Mississippi State Port Authority at Gulfport

The port's tonnage projections for FY 1990 and 1991 are shown in Table II-11. Banana tonnage is expected to increase slightly, so that by FY 1991, tonnages are once again up to about 540,000. Ilmenite imports and container imports and exports are also expected to increase slightly. The largest increase in tonnage is expected to be in fishmeal. International Proteins expects to increase tonnages substantially in FY 1990 and 1991.

#### Project Description

The proposed Corps of Engineers project provides for dredging the existing ship channel to a minimum depth of 36 feet. Channel width will remain the same. The project includes realignment of the Ship Island Pass segment of the channel. The new segment will be located about 1,900 feet west of the present channel. The project also involves improvements to the turning basin. The northern 900 feet of the turning basin will be 32 feet deep and 1,110 feet wide. The southern portion of the turning basin, which is about 4,200 feet long, will be dredged to a depth of 36 feet. In addition, an old breakwater will be removed from the entrance to the turning basin.

In addition to the Corps of Engineers project, the Mississippi State Port Authority at Gulfport will be adding a containeryard along the west side of the West Pier. This addition will involve the building of 29 acres of land by constructing a dike to hold the fill and pumping dredged material from the breakwater area at the mouth of the harbor (which has never been dredged) into it. The new 29 acres will be surfaced to standards required for handling containers and electric power will be provided. Ultimately, an Intermodal Container Transfer Facility (ICTF) may be provided in this area.

Table II-11. Tonnage Figures and Projections for Gulfport Harbor, 1989-1991  
(Short tons)

Commodity	Fiscal Year		
	1989 (Actual)	1990	1991
Bananas (I)	512,196	525,000	540,000
Pineapples (I)	9,220	7,500	5,000
Coconuts (I)	254	250	250
Containers (I/O)	50,308	55,340	60,900
Ilmenite (I)	175,848	187,500	226,000
Woodpulp	1,735	1,500	1,500
Fishmeal (I)	14,554	41,500	52,000
Lumber (mostly I)	27,053	30,000	40,000
Cotton	1,664	5,000	6,000
Titanium Oxide (O)	0	6,000	10,000
General Cargo	19,482	250	250
Steel	0	2,000	3,000
Bagged Goods (O)	6,967	5,000	6,500
Explosives (O)	1,090	1,000	1,000
Sugar (O)	1,619	26,400	0
Frozen Food (I/O)	17,616	18,000	20,200
Linerboard (O)	33,949	34,800	35,800
Puree	6,010	6,000	6,000
Total	879,565	953,040	1,014,400

Notes: I - Inbound

O - Outbound

I/O - Both inbound and outbound

Source: Port staff of Mississippi State Port Authority at Gulfport..

### **III. DESCRIPTION OF IMPACT ANALYSIS METHODOLOGY**

### III. DESCRIPTION OF IMPACT ANALYSIS METHODOLOGY

#### Procedures for Estimating Economic Impacts

Businesses like the Mississippi State Port Authority at Gulfport do not exist in a vacuum; they must purchase and provide products and services within an economy. The existence of a business within a state means that individuals are employed, taxes are paid, products are purchased and services are provided. A business is a buyer of goods and services in some cases (for instance of labor) and a seller in other cases - for its final product. The realization of this interdependence between business, workers, and government makes necessary the use of mathematical economic models to conduct a proper accounting of the value of a business to a state and local economy. This chapter describes such a model and how it can be applied to the case of Gulfport Harbor operating in a regional economy.

#### Input-Output Model

The methodology used to trace and estimate the economic impacts of Gulfport Harbor on the economy of the Gulfport area and the state of Mississippi is the input-output model, an economic model that describes the interindustry relations within an economy. The model was originally developed by Harvard economist Wassily Leontief for which he received the 1973 Nobel Prize in economics<sup>1</sup>.

The input-output (or IO) model, through its application of economic general equilibrium analysis, mathematically portrays the transactions necessary among various industries as these industries provide goods and services for consumers, businesses and government. It provides a systematic method of analyzing interindustry relationships. Fully accounting for the economic interrelationships allows analysts to describe the complete economic impacts of industry activity.

The IO approach is based on the idea that any transaction is both a purchase and a sale, depending on the point of view. A sale by one merchant is viewed as a purchase by the buyer. A simple table may be constructed, with as much or little detail as desired, in which various categories of sellers of economic goods are listed in the left-hand column, while along the top of the columns the same categories are listed in the same order except

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<sup>1</sup> - see Leontief's The Structure of American Economy, 1919-29, (Cambridge, Mass., 1941) for the first treatment of input-output economics.

as buyers of various goods and services. For example, Table III-1 illustrates a hypothetical economy with four industrial sectors: agricultural, mining, manufacturing and services. The table shows that for the agricultural sector to produce one dollar's worth of an agricultural commodity, such as wheat, the industry is required, directly and indirectly, to purchase \$1.14 worth of inputs from firms within the agricultural sector as well as \$0.22 worth of inputs from the mining sector, \$0.13 worth of inputs from manufacturers and \$0.12 of inputs from service industry companies. These purchases are for items such as fertilizer, seed, tractors, fuel, insurance and many other items. When the agricultural sector purchases a tractor from a manufacturer, the manufacturer must purchase steel, tires, insurance and all its factors of production. When insurance is purchased from the service sector, the insurance company has to purchase office supplies, hire labor, use utilities and all its factors of production. Finally, the employees of the various sectors must purchase, using the wages of their labor, bread produced by the agricultural sector.

Table III-1. Input-Output Model for Hypothetical Economy

Total requirements from regional industries per dollar of output delivered to final demand				
SELLING INDUSTRY	PURCHASING INDUSTRY			
	Agriculture	Mining	Manufac	Services
Agriculture	1.14	0.22	0.13	0.12
Mining	0.19	1.10	0.16	0.07
Manufacturing	0.16	0.16	1.16	0.06
Services	0.08	0.05	0.08	1.09
Total	1.57	1.53	1.53	1.34

Source: Regional Multipliers: A User Handbook for the Regional Input-Output Modelling System, U.S. Department of Commerce, Bureau of Economic Analysis, May, 1986.

In the above economy a \$10 million increase in sales of agricultural goods would lead not only to the initial \$10 million increase in agricultural sales but also to increases in sales by those industries supplying inputs to agricultural companies. These industries, in turn, will increase their purchases from other industries, and so forth, until the impacts of the initial increase are diffused throughout the economy. The total economy-wide impact of the original \$10 million increase would be \$15.7 million (\$10 million X 1.57, the total multiplier for the agricultural sector.)

IO models can also be developed to give the full, economy-wide impacts of the final demand (business sales) of various industries on earnings, employment and taxes. The model used to develop most of the impact estimates in this report is the U.S. Department of Commerce, Maritime Administration (MARAD) Port Economic Impact Model known as PortKit<sup>2</sup>. This model was developed especially to examine, describe and estimate port impacts.

#### MARAD Methodology

The MARAD Port Economic Impact Model is an input-output model which enables small to medium sized ports to evaluate the economic impact of specific port activities. These economic impacts can be used to measure the importance of existing port facilities or to estimate impacts of future port expansion.

The model measures the effects of three types of impacts: direct, indirect and induced.

Direct impacts consist of employment and purchases of goods and services in the region required for the port activity.

Indirect (interindustry) impacts consist of the goods and services purchased by the firms which supply the direct inputs.

Induced impacts consist of increased household purchases of goods and services in the region by employees of direct and indirect employers.

Furthermore, direct, indirect, and induced economic impacts also generate additional state and local income, sales, and property taxes that must be addressed by the model.

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<sup>2</sup>U.S. Department of Commerce, Maritime Administration, Port Economic Impact Kit, developed by Temple, Barker, Sloane, 1985.

Direct impacts that can be analyzed by the model include the following port activities:

Port industry: The services associated with moving cargo through the port facility.

Local port user industries: The production activities of receivers and shippers that make use of the port facility.

Port capital spending: New construction, expansion or rehabilitation of port facilities.

The four ways the model measures the magnitudes of these impacts are:

- Sales revenues of port related firms.
- Wages of employees of port related industries.
- Employment attributable to the port related activity.
- Taxes collected in the study area from economic activities associated with the port facility.

Once direct impacts of the port activity are measured through estimation or surveys, they can be used to determine the indirect and induced effects. This is accomplished by applying economic multipliers, which are ratios relating total impacts to direct impacts, derived from input-output models, to the direct impacts.

This model uses a 30 sector input-output model that portrays the indirect and induced economic interaction of a region. This is done by expressing the dollar amount of an input from an industry required to produce a dollars worth of output of a specific industry. The model also supplies employment per dollar of output per industry, which allows conversion of industry output into changes in employment. These tables are used to estimate economic multipliers. The model uses these multipliers to estimate the total economic effect of an activity relative to the direct impact of the activity. The multipliers, which summarize the magnitude of the indirect and induced effects generated by a given direct change, are for employment, output and income.

When trying to determine a regional economic effect on an activity, it must be taken into account that some goods and services are purchased from outside the study region. The expenditures for these goods and services are not recirculated through the regional economy and therefore lower the indirect and induced demands for local goods and services. This effect is called leakage, since successive "rounds" of spending result in a

decreased indirect and induced effect of a direct action. The model alleviates the problem of leakage by calculating regional purchase coefficients (RPCs) from user supplied data. RPCs express the proportion of the demand for a good or service that is supplied from that region and represents the percentage of the indirect and induced impacts that will remain in the region. RPCs in each industry are used by the PortKit model in conjunction with input-output tables to calculate the regional multipliers.

#### Comparison of PortKit to Other Models

The PortKit was chosen as the basic model for estimating the impacts of deepening Gulfport Harbor and expanding the port containeryard. The study team compared the results of the PortKit to other available models including the AIMS and EIFS construction impact models developed by the Construction Engineering Research Laboratory and the RIMS model produced by the Bureau of Economic Analysis.<sup>3</sup>

The PortKit presents several advantages over other IO models. First, it was developed and tested especially at ports in the United States to be used by ports in the United States. Other models are more general in purpose and the input-output multipliers developed for them are necessarily less specific. For instance, the RIMS model has several construction sectors but none correspond to the specific characteristics of the port industry. Second, the PortKit requires that the model user input figures for local economic parameters and port specific port charges. In this way, the model can more closely conform to the local economy and local port. Lastly, the PortKit has been tested at several port and has been shown to accurately reflect port impacts. For this report, all estimates of impacts are based on the PortKit, though construction impacts derived from the EIFS model are included for comparison purposes (Chapter V).

The advantage that the PortKit provides by using local port charges (including navigation services, stevedoring, bunkering, catenary charges, dockage, freight forwarding and crew expenses) is also the biggest disadvantage of the model. It is difficult to generate all of the data elements necessary to calculate the multipliers in the model. If the default

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<sup>3</sup>The AIMS (Automated Input Multiplier System) and EIFS (Economic Impact Forecast System) construction impact models are produced at the U.S. Army Corps of Engineers, Construction Engineering Research Laboratory (CERL), Environmental Information System, University of Illinois. The RIMS model is produced by U.S. Department of Commerce, Bureau of Economic Analysis. The multipliers are listed in the publication Regional Multipliers: A User Handbook for the Regional Input-Output Modelling System (RIMS II), p.96.

values of the model are accepted the results from the model can be wildly inaccurate since charges at different ports vary.

The multipliers derived from the PortKit model are somewhat lower than those from other models examined. The multipliers for overall sales are the only ones that are completely comparable between the models because the models use different methods to generate income and employment impacts. Sales multipliers for the models are listed below.

Input-Output Model	Mississippi	Local Area
MARAD PortKit	1.6	1.4
AIMS Model	2.4	2.1
EIFS Model	2.8	1.7
RIMS Model	2.2	NA

The differences probably occur for the following reasons: (1) rates for services, whether public port charges or charges by private operators like stevedores, are considerably lower than at typical East and West coast ports; (2) some port services are provided outside of Mississippi and therefore immediate leakages are significant; and (3) the other models' multipliers represent broad industrial categories that may not accurately represent the port industry in general. The multiplier impacts implied by the PortKit are still considerable and are only relatively and not absolutely low.

**IV. DESCRIPTION OF GULFPORT HARBOR ACTIVITY:  
DIRECT IMPACTS**

#### IV. DESCRIPTION OF GULFPORT HARBOR ACTIVITY: DIRECT IMPACTS

This chapter describes the direct impacts of throughput at the Mississippi State Port Authority at Gulfport. Tonnage throughput and port revenues have been previously described in Chapter II. This chapter focuses on the results of the interviews conducted by the research team of present and potential port clients.

##### Interviews with Present and Potential Port Clients

###### Standard Fruit and Steamship Co. (Dole)

A 36-foot channel would mean little immediate change in Dole's operations or the quantity of imports of bananas, pineapples, and coconuts shipped. However, company officials stated that a deeper channel would open more options to the company. Specific mention was made of a possible consolidation of fruit imports that are now split between several ports. Also mentioned was the possibility of the port regaining some Dole imports of canned juice and canned pineapple which formerly came into Gulfport but now are imported through Charleston, South Carolina or Port Everglades or Jacksonville, Florida. These commodities are brought in on non-company ships. The port of importation was changed when the shipping lines which carried the commodities for Dole stopped using Gulfport because of inadequate draft. Also mentioned was the importation of resin (10,000 tons annually) which is now handled through Galveston, Texas.

###### United Brands Company (Chiquita)

United Brands has no near term plans to significantly increase the tonnage of bananas (370,000 tons annually) imported through Gulfport. However, by 1992 their fruit will be carried in vessels that draw 30 feet but need an additional two feet of under keel. (The vessel used presently has a draft of 24 feet). This type shipment would definitely benefit from a deeper channel. Company officials stated that their current backhaul to Honduras is miscellaneous company-owned products. However, there are plans to branch out to general carrier cargo shortly. When the three new 30 foot draft ships are on line in 1992 they will have a 100 percent backhaul rate to the East Coast and then back to Honduras.<sup>1</sup> Whether this will present an opportunity for coastwise tonnage from Gulfport to the East Coast is unknown. Company officials expressed the opinion that a deeper

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<sup>1</sup>General Design Memorandum. Gulfport Harbor, Mississippi. Economic Appendix A.  
U.S. Army Corps of Engineers, Mobile District, 1987.

harbor was desperately needed at Gulfport. Also mentioned was the need for more storage space for containerized cargo. The deepening and containeryard project plans would create additional container storage area by using dredged material to fill in approximately 29 acres behind a dike.

Since the impacts of the triangular service described above are unclear, no new tonnage was assumed to be generated by the deeper channel from Chiquita's operations. The situation should of course be observed carefully in case opportunities do arise.

#### Lumber and Wood Products

In 1988 approximately 30,000 short tons of lumber were imported into Gulfport Harbor. Most, if not all, was brought in by Newman Lumber of Gulfport and processed locally. The lumber comes into the Port of Gulfport breakbulk, is kiln-dried and graded at the local plant and approximately 5,000 tons is then exported in containers from Gulfport. The company would like to use larger ships for its imports and has considered moving its imports to Pascagoula because of deeper water and more space to hold bulk commodities. The company feels that if a scheduled container service were available to Europe it would allow them to expand into new markets. Eventual tonnages were unknown. No new tonnage was assumed to be generated by this firm.

Personnel from the Harrison County Development Commission felt sure that substantial amounts of pulp, paper and other Mississippi lumber products that are now exported via New Orleans or Mobile could be diverted to Gulfport if the channel depth were increased to 36 feet. Estimates of future tonnages were not made. In addition, interviews with other forest product firms and with railroad personnel indicated great interest in opportunities of transporting forest products. The strength of U.S. exports of these products indicates that a focus on these type commodities would be appropriate. From the point of view of the state of Mississippi the only concern would be over whether Gulfport competes with Mobile and New Orleans, for instance, or Gulfport's sister port at Pascagoula.

#### Fishmeal

The Appendix A, Economic Analysis (hereafter Economic Appendix) of the 1989 GDM gives a base-year (1992) estimate of 27,500 tons of fishmeal imported through the Port of Gulfport. This was based on a 1986 tonnage of 27,500 that was imported from Chile. Estimates in the GDM appendix state that fishmeal imports through Gulfport might

be as much as 40,000 tons annually by 1992 if the channel is deepened. However, scheduled movements of fishmeal for 1990 indicate expected imports will be at least 40,000 tons next calendar year. Company officials were unavailable for comment on future tonnage estimates with or without a deeper channel. For the purposes of this report, the GDM estimate of an additional 12,500 tons shipped annually (for a total of 52,500 baseyear tons) due to the deepening of the channel was accepted. The strength of the Mississippi catfish industry, a major purchaser of fishmeal, indicates that this is reasonable.

### Scrap Metal

The 1989 GDM Economic Appendix indicates that 336,000 short tons of scrap metal will change from shipment through Darrow/New Orleans to the Port of Gulfport. This was based on the existence of a scrap metal company at Gulfport with direct access to barge transport at Biloxi Harbor. According to the GDM the company handles approximately 224,000 tons of scrap metal through its Gulfport facility annually and 112,000 tons are railed from locations in the southeast United States to Darrow for export.

For the purposes of this analysis, it was assumed that the real savings available and documented in the Economic Appendix would induce either this firm and/or a competing firm to export scrap steel through the Port of Gulfport. The study team's interviews identified approximately 135,000 tons of scrap steel production from local sources in addition to the 112,000 tons are being railed from various locations to New Orleans. In addition, shipments on the Gulf Intracoastal Waterway for the segment west of Mobile, Alabama have averaged 165,900 tons over the 1985 to 1987 period. These figures indicate that the COE projection of 336,000 tons is reasonable to use as the base year tonnage figure. Even if the volume of scrap steel indicated in the Economic Appendix does not ship through the port, it is likely that some new breakbulk or neobulk shipments will be attracted to the port by the deeper channel. The scrap steel tonnage, then, can be used as a proxy for this potential tonnage.

### Ilmenite Ore

E. I. DuPont de Nemours has a plant at DeLisle, Mississippi, 14 miles by rail from the Port of Gulfport. Recent expansion has increased the processing capacity of the plant to 320,000 tons of ore annually. Presently 195,000 to 225,000 tons of ilmenite ore from Australia is processed each year. Of this amount, approximately 175,000 tons is brought into the Port of Gulfport on ABC Containerline's conbulklers (container-bulk ships). The

remainder is ore which is off loaded in New Orleans, barged to Port Bienville, Mississippi and trucked to the plant at DeLisle. The lightened ship can then traverse the 30 foot channel at Gulfport to deliver the preponderance of the ore.

In coming years ilmenite ore will be obtained from three other sources as well as Australia. The additional ships scheduled to carry ilmenite ore into Gulfport exceed 30 foot drafts--having 34 and 36 foot drafts. The present conbulker has a draft of 37.4 feet. Therefore all future ore shipments for the DeLisle plant could go through the Port of Gulfport if the channel is increased to 36 feet. Barging ore from Burnside to Port Bienville and then trucking it to the plant would be eliminated. It is estimated that an additional 49,600 tons per year will be imported through Gulfport due to the harbor deepening under base year conditions.

DuPont currently has plans to install additional ore storage capacity at the Port of Gulfport to accommodate the expected increases in tonnage.

#### Containers

The deepening of the channel will likely impact container movements in two ways. First, the conbulkurs being used to ship ilmenite ore also carry containers. Our interviews indicated that approximately four to five conbulker ships per year (out of 15 to 18 ship visits) unload all containers at New Orleans during lightering operations. These containers would be unloaded at Gulfport with the deeper channel, adding approximately 800 container movements and 12,000 short tons to throughput at Gulfport. Commodities include frozen meat and wool that are not time sensitive. These containers were accepted as base year tonnage.

The second category of container movement that Gulfport has a reasonable chance of attracting is a regularly scheduled container liner service. The port had such a service, provided by Trans Freight Lines (TFL) from 1984 to 1988, until the line moved its operations to Houston. The reasons for the loss of this service include both the lack of channel depth and a decision by the TFL, Sealand and Nedlloyd consortium to load center at a port near the product source (chemicals).

If the port could attract another liner service from New Orleans or Mobile, the impacts would be substantial. In fact, the logic of the project appears to hinge on this possibility. A biweekly container service, loading and unloading 500 40 foot containers per vessel visit (13,000 containers per year), with an average of 15 tons per container, would generate 195,000 tons of revenue-generating cargo per year. This size liner service is

comparable to the estimate of container tonnage described in the Economic Appendix of the GDM. A weekly service would of course imply larger tonnage throughput and larger impacts.

The port could attract anywhere from no additional container movements (outside of those transported on ABC Containerlines' conbulkers) to perhaps two regular container liner services.

Interviews with maritime industry officials indicate that the possibility of liner service returning to Gulfport is good. Costs studies generated by the study team from public documents (e.g. tariff schedules) and interview responses, the analysis presented in the Corps of Engineers GDM Economic Appendix, as well as internal cost analyses prepared by port staff to lure shipping lines all indicate that significant cost advantages are available for shipping lines transferring from the Port of New Orleans to Gulfport. Lower costs as compared to New Orleans are available due to shorter transit times, lower pilotage and towage costs, lower wharfage, dockage, storage and equipment rental charges and stevedoring costs. Depending on the assumptions made, the annual savings for a biweekly liner service transferring from New Orleans to Gulfport may be from \$250,000 to \$750,000. Key parameters that lead to the large cost boundaries include whether containers must be drayed to New Orleans because of New Orleans bills of lading and variations in loading/unloading productivity. On the other hand the Port of New Orleans has several advantages over Gulfport. Most significant are rail access and cost, the presence of ancillary services and the fact that New Orleans is well-known to the shipping industry. In addition, inertia is a powerful ally of established ports. Advantages and disadvantages of Gulfport vis-a-vis other ports will be discussed in more detail below.

The most likely case scenario, as determined by the study team, is one biweekly container liner service generating 195,000 tons annually. This would provide a significant economic impact for the Port of Gulfport as well as the local and state economies.

### Direct Impacts

The firms shipping through the Port of Gulfport have direct operational impacts in terms of sales, payroll, taxes and employment. (Impacts associated with transportation through the port will be addressed in Chapter VII.) During the interview process the study team attempted to determine estimates of these parameters. Because firms are

understandably reluctant to release proprietary company information, the data collected was limited. The best estimates possible from the limited available information are:

Full-Time-Equivalent Employment	950
Annual Payroll	35,000,000
Gross Revenues	350,000,000
Local Taxes	1,300,000
State Taxes	915,000

These numbers provide an indication of the importance of the Port of Gulfport to the local and state economies. While it cannot be established that these firms located in the area due to the location of the Port of Gulfport, lower cost transportation makes the firms more efficient and more able to compete.

## **V. DIRECT CONSTRUCTION AND CAPITAL SPENDING IMPACTS**

## **V. DIRECT CONSTRUCTION AND CAPITAL SPENDING IMPACTS**

The initial capital outlay associated with the expansion of the Gulfport Harbor should result in the short term stimulation of the state and local economies. This economic stimulation includes changes in output, payroll, taxes (in October, 1989 dollars) and employment associated with the direct, indirect and induced effects of the increased capital spending. The impacts associated with construction spending are one-time occurrences. All of the impacts will occur during the thirty-four month construction period.

Two approaches were employed to assess the magnitude of these impacts; the MARAD Port Economic Impact Kit (PortKit) and U.S. Army Construction Engineering Research Laboratory (CERL) Economic Impact Forecast System (EIFS) regional input-output multipliers.

In order to estimate the economic impact of the construction phase of the project to the Mississippi economy, an estimate of the percentage of total project costs that are projected to remain in Mississippi were obtained from the U.S. Army Corps of Engineers and the port staff. Of the \$52,000,000 total budget, local expenditures including dredging, wharf stabilization, pipeline relocation, dike construction, containeryard surfacing and a 15 percent contingency cost were \$15,267,050 (Table V-1).

Due to the cost-specific nature of the local expenditures, the local budget was the source of two problems in calculating local impacts with the models: (1) the allocation of the local budget between labor and materials greatly differed between the models and the actual estimations and (2) the models decreased direct spending below the actual budgeted amount, by generating regional purchase coefficients (RPC) to account for the leaking out of certain purchases from the economy due to purchases of goods and services outside of the region.

To adjust for these discrepancies, the models were allowed to allocate the local budget according to their parameters, then output, income and employment multipliers obtained from these calculations were applied to the U.S. Army Corps of Engineers supplied direct output of \$15,267,050 and the direct payroll of \$6,059,150 to obtain total output and income to be injected into the Mississippi economy. Total employment was obtained by dividing total payroll by the average income of construction workers in Mississippi.

Table V-1. Breakdown of Project Expenditures Remaining in Mississippi

<u>Item</u>	<u>Cost</u> (October, 1989 dollars)
Channel Dredging	
Groceries/supplies	\$ 636,550
Diesel fuel	3,265,500
Labor	789,950
Wharf Stabilization	
Labor	1,105,500
Material/Equipment	1,105,500
Pipeline Relocation	
Labor	1,264,000
Other	
15% Contingency	1,225,050
Dike Construction	4,000,000
Surfacing Containeryard	<u>1,875,000</u>
Total Mississippi Expenditure	\$15,267,050

Source: U.S. Corps of Engineers, Mobile District; and Simpkins & Costelli, Inc. Consulting Engineers.

After examining the commuting patterns of the three county region, it was assumed that 90 percent of the labor and material allocated to Mississippi would remain in the three county area of Hancock, Harrison and Jackson. Under this assumption, \$13,740,350 of the initial outlay would be spent locally, of which \$5,453,240 would be allocated to payrolls. The procedure described above for estimating the economic impacts to Mississippi was repeated to obtain project impacts in the three county region.

Along with increases in sales, income and employment, the state and local economies will also experience increases in governmental revenues. State taxes paid by individuals were estimated by applying a standard proportion of household income spent on taxes (a ratio relating household income to state government revenue) to the increase in payrolls. For taxes paid by corporations (income plus other state taxes) a proportion relating total

sales to taxes for each of the 30 industrial sectors was estimated and applied to total increased sales volume.

The increase in local government revenue due to the increased economic activity was obtained by estimating the ratio of locally collected taxes to personal income. This ratio, which includes local individual and corporate taxes, was applied to the total increase in local payroll to obtain the increase in local government revenue.

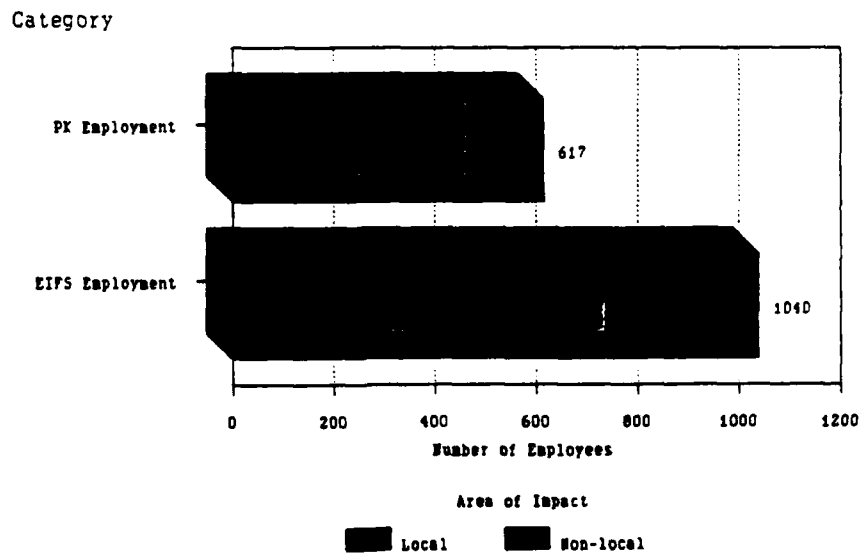
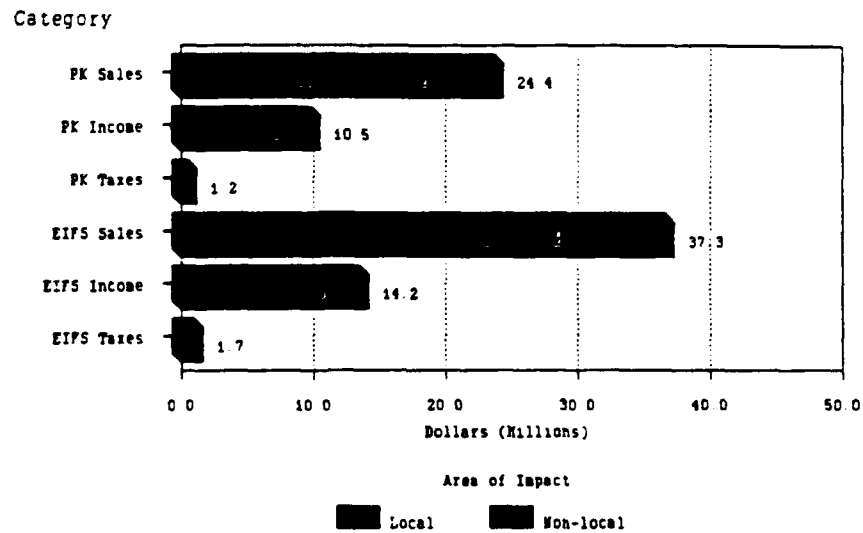
For the construction industry in the state of Mississippi, the PortKit model, as described in previous sections, estimated a sales multiplier of 1.60, an income multiplier of 1.74 and an employment multiplier of 1.73. Applying these multipliers to the direct effects of the \$15,267,050 in sales, the \$6,059,150 in income and the 356 new jobs, yields total sales impacts of \$24,427,280, total income impacts of \$10,540,920 and total employment impacts of 617 jobs. State taxes associated with these increases amounted to \$477,899 (Figure V-1).

The PortKit model calculated local economic multipliers for the construction industry in the three county region of 1.41 for sales, 1.50 for income and 1.61 for employment. With direct sales of \$13,740,350, direct payrolls of \$5,453,240 and 321 jobs due to the capital spending of the construction project, total sales amounted to \$19,373,890, total income was estimated at \$8,179,850 and total employment was 516 new jobs. The increase in local taxes associated with these increases amounted to \$719,212. Using PortKit model multipliers, total increases in state and local taxes came to \$1,197,111 (Figure V-1).

The construction phase of the Gulfport Harbor expansion is scheduled to take place over a thirty-four month time span. In order to determine yearly economic impacts during the construction phase, state and local capital outlays were allocated to the fiscal year in which they are scheduled to be expended according to the U.S. Corps of Engineers. Payrolls were allocated as a percentage of annual capital outlay for each expense, as indicated by the Corps. Using economic multipliers calculated by the PortKit model, separate schedules of yearly impacts were developed for the total capital outlay associated with the channel deepening and containeryard construction and the capital outlay associated with the channel deepening.

During fiscal year 1992, Mississippi should realize an increase of \$3,512,560 in total sales, \$2,139,070 in total income and 125 new jobs (Table V-2). The state should also realize an increase of \$92,980 in government revenue.

**Figure V-1. Total Construction Impacts at Gulfport Harbor  
from Channel Deepening and Containeryard Construction**



All dollar amounts in October, 1989 dollars.

PK = MARAD PortKit

EIFS = Economic Impact Forecast System

Sources: Gulf Engineers & Consultants.

Impacts to the Mississippi economy during fiscal year 1993 should include an increase of \$12,245,680 in total sales, \$5,929,830 in total income and 347 new jobs. State tax collections should increase by \$264,673 during the year. The construction project in fiscal year 1994 should include \$6,819,840 in total sales, \$2,135,850 in total income and 125 new jobs. State tax collections should increase by \$101,978 during the year. Construction, which is scheduled to conclude in fiscal year 1995, should result in \$1,849,200 in increased sales, \$338,170 in increased revenues and 20 new jobs for Mississippi. State taxes should increase by \$18,268 during this period.

The local economies of Hancock, Harrison and Jackson counties should realize the majority of the economic impacts resulting in the state during the construction phase of the project. During fiscal year 1992, local sales are expected to increase by \$2,785,900, local income is expected to increase by \$1,659,620 and local employment is expected to increase by 105 jobs (Table V-3). Increased local tax collections during the year should be \$145,922. During fiscal year 1993, the local economy should realize increased sales of \$9,712,350, increased income of \$4,600,730 and increased employment of 290 new jobs. Local taxes are expected to increase by \$404,519. Fiscal year 1994 should provide \$5,408,990 in new sales, \$1,657,130 in new income and 105 new jobs. These increases should be accompanied by an increase of \$145,702 in new local tax collections.

Table V-2. Economic Impact of Channel Deepening and Containeryard Construction for Mississippi, by Year

Fiscal Year	Direct Sales	Payroll	Jobs	Total Sales	Payroll	Jobs
1992	2,195.35	1,229.35	72	3,512.56	2,139.07	125
1993	7,653.55	3,407.95	200	12,245.68	5,929.83	347
1994	4,262.40	1,227.50	72	6,819.84	2,135.85	125
1995	1,155.75	194.35	11	1,849.20	338.17	20
Total	15,267.05	6,059.15	356	24,427.28	10,542.92	617

Sales and payroll in \$1,000's of October, 1989 dollars.  
Totals may not add due to rounding.

Source: Gulf Engineers & Consultants, Inc.

**Table V-3. Economic Impact of Channel Deepening  
and Containeryard Construction for the Local Economy by Year**

<b>Fiscal Year</b>	<b>Direct Sales</b>	<b>Payroll</b>	<b>Jobs</b>	<b>Total Sales</b>	<b>Payroll</b>	<b>Jobs</b>
1992	1,975.82	1,106.42	65	2,785.90	1,659.62	105
1993	6,888.20	3,067.16	180	9,712.35	4,600.73	290
1994	3,836.16	1,104.75	65	5,408.99	1,657.13	105
1995	1,040.18	174.92	10	1,466.65	262.37	17
<b>Total</b>	<b>13,740.35</b>	<b>5,453.24</b>	<b>321</b>	<b>19,373.89</b>	<b>8,179.85</b>	<b>516</b>

Sales and payroll in \$1,000's of October, 1989 dollars.  
Totals may not add due to rounding.

Source: Gulf Engineers & Consultants, Inc.

Construction impacts during fiscal year 1995 are expected to include \$1,466,650 in increased sales, \$262,370 in increased payroll and 17 new jobs. In fiscal year 1995, \$23,069 in taxes should be collected due to construction impacts.

The PortKit model multipliers were also used to determine separate yearly impacts for the channel deepening activities of the project, to the Mississippi and local economies.

Under this scenario, wharf stabilization, pipeline relocation and dredging expenditures for fiscal year 1992 were estimated to increase total sales by \$3,512,560, total income by \$2,139,070 and total employment by 125 jobs in Mississippi (Table V-4). These increases interpret into a \$95,980 increase in state revenues. During fiscal year 1993, \$5,845,680 in total sales, \$2,867,430 in total income and 168 new jobs are expected to be generated by wharf stabilization, pipeline relocation and dredging expenditures in Mississippi. Along with these increases, state government revenues are expected to increase by \$127,776. Dredging activities in fiscal year 1994 should increase total sales by \$3,819,840, total income by \$700,350 and create 41 new jobs. Increases in state taxes due to these impacts should be \$47,776. During fiscal year 1995, the economy of Mississippi should realize \$1,849,200 in increased sales, \$338,170 in increased income, 20 new jobs and \$23,069 in additional taxes due to the construction project.

In the three county region, the initial year of the expansion project, fiscal year 1992, excluding constructing of the containeryard, is expected to generate \$2,785,900 in total sales, \$1,659,620 in total income and 105 new jobs due to the initial local capital expenditure

**Table V-4. Economic Impact of Channel Deepening  
on the Mississippi Economy, by Year**

Fiscal Year	Direct Sales	Payroll	Jobs	Total Sales	Payroll	Jobs
1992	2,195.35	1,229.35	72	3,512.56	2,139.07	125
1993	3,653.55	1,647.95	97	5,845.68	2,867.43	168
1994	2,387.40	420.50	24	3,819.84	700.35	41
1995	1,155.75	194.35	11	1,849.20	338.17	20
<b>Total</b>	<b>9,392.05</b>	<b>3,474.15</b>	<b>204</b>	<b>15,027.28</b>	<b>6,045.02</b>	<b>354</b>

Sales and payroll in \$1,000's of October, 1989 dollars.  
Totals may not add due to rounding.

Source: Gulf Engineers & Consultants, Inc.

(Table V-5). Local tax collections should increase by \$145,922 due to these impacts. In fiscal year 1993, \$4,636,350 in total sales, \$2,224,730 in total income and 140 new jobs should be created by the dredging project. This should in turn increase local governmental revenue by \$195,609. The local impacts of the channel deepening activities for fiscal year 1994 should generate \$3,029,610 in total sales, \$543,370 in total income and 34 new jobs. Along with these increases, there should also be a \$47,776 increase in local tax collections. During fiscal year 1995, total sales are expected to increase by \$1,466,650, total income by

**Table V-5. Economic Impact of Channel Dredging  
on the Local Economy, by Year**

Fiscal Year	Direct Sales	Payroll	Jobs	Total Sales	Payroll	Jobs
1992	1,975.82	1,106.42	65	2,785.90	1,659.62	105
1993	3,288.20	1,483.16	87	4,636.35	2,224.73	140
1994	2,148.66	362.25	21	3,029.61	543.37	34
1995	1,040.18	174.92	10	1,466.65	262.37	17
<b>Total</b>	<b>8,452.85</b>	<b>3,126.74</b>	<b>184</b>	<b>11,918.51</b>	<b>4,690.10</b>	<b>296</b>

Sales and payroll in \$1,000's of October, 1989 dollars.  
Totals may not add due to rounding.

Source: Gulf Engineers & Consultants, Inc.

\$262,370 and employment by 17 new jobs. Local tax collections are expected to increase by \$23,069 in fiscal year 1995.

The U.S. Army Construction Engineering Research Laboratory (CERL), Economic Impact Forecast System (EIFS), a computer aided system for calculating social and economic impacts caused by changes in local expenditures was also used to estimate the impact of the initial capital outlay. EIFS estimates output, income and employment multipliers for industrial sectors within a user defined region. The program generates input-output type industrial multipliers that relate changes in gross output, income and employment to changes in industry-specific final demand for the region.

A review of the list of industrial sectors available for regional analysis revealed that the sector that most appropriately describe the Gulfport Harbor expansion project is "New Construction of Dams and Reservoirs." Multipliers for this sector were obtained for Mississippi and for the three county region and applied to the dollar value of output delivered to final demand (the initial capital outlay) to obtain total sales, income and employment impacts.

For the state of Mississippi, the CERL EIFS model supplied multipliers of 2.446 for sales, 0.931 for income and 0.00006815 for employment. Differing from the PortKit multipliers, these multipliers are to be applied to the total spending of \$15,267,050. This yields \$37,343,204 in total sales, \$14,213,624 in total income and 1,040 new jobs. The increase in state taxes associated with these impacts is \$656,456.

The CERL EIFS model calculated a sales multiplier of 2.147, an income multiplier of 0.848 and an employment multiplier of 0.00005751 for the three county region. Applying these multipliers to the \$13,740,350 in capital outlay for the region yields total sales of \$29,500,521, total income of \$11,651,813 and total increase in employment of 790 new jobs. Along with these increases the local government should realize an increase of \$1,024,486 in revenues. Using EIFS multipliers, state and local government revenues should increase by \$1,680,941 (Figure V-1).

It should be noted that none of the streams of income generated by direct (construction) impacts or tonnage throughput increases have been adjusted for increased demand for public services caused by the deepening and/or containeryard expansion projects. Specifically, only "gross" impacts are shown in this report.

## **VI. LONG RANGE DEVELOPMENT AND MARKETING STRATEGY**

## **VI. LONG RANGE DEVELOPMENT AND MARKETING STRATEGY**

The deepening of Gulfport Harbor to 36 feet and the expansion of the container-yard will allow the staff of the Mississippi State Port Authority at Gulfport to market to a new and larger clientele. This change requires that the port re-examine its strategies and long term goals in order to maximize the positive benefits of the new facilities. This chapter describes the study team's analysis of marketing efforts and opportunities at Gulfport Harbor.

The material in this chapter is based on the study team's analysis of the Gulfport Harbor in comparison to the overall maritime and transportation industry, examination of studies and other materials regarding the Port of Gulfport and interviews with knowledgeable sources within the maritime industry.

### **Strengths and Weaknesses of the Port**

Any marketing effort must begin with an understanding of the perceived advantages and disadvantages of the product to be promoted. Only then can strategies and long term plans be made.

Gulfport Harbor is a small to medium sized port in the very competitive Gulf region port market. It is not as well known as many of its competitors and has a narrow clientele of bulk, container and breakbulk shippers. Throughput has been stable or decreasing during the recent past. A new director and the addition of a marketing department and new marketing director are significant recent changes at the port.

Negative features of the port are listed in Exhibit VI-1. Several of the items listed are not necessarily the judgment of the study team but reflect statements made by individuals being interviewed. In these cases the item is indicated by the notation "perception."

Items listed under marketing and administration obviously reflect prior performance and not that of the new staff members. It should be noted that the new director only started in August and the marketing director in October of this year. The comments reflected in Exhibit VI-1 are relevant only for past performance, not present or future. Nevertheless, it is certainly the case that Gulfport Harbor is not as well known as other ports of its size. The port has the opportunity to increase its profile inside and outside the

**Exhibit VI-1. Negative Features Related to Development  
at Gulfport Harbor, Mississippi**

**Marketing and administration**

- Port is less well known than others of its size
- Marketing has been inadequate (perception)
- Past administration was not highly thought of (perception)

**Size**

- Small port in era of port load centering
- Few ancillary services available: shipping agents, forwarders, etc.
- Limited backhaul opportunities

**Inland transport - Rail**

- Non trunk line railroad
- MidSouth does not own Hattiesburg to Jackson rail segment
- Weak compared to Port of New Orleans connections

**Cost/Productivity**

- New Orleans bill of lading requires draying with extra costs
- Extra switching charge due to IC-MidSouth connection at Hattiesburg

**Industry changes**

- New Orleans has \$190 m. improvement program
- Other ports in Gulf region have *similar* development programs
- Other ports are increasing depth and adding facilities
- Cargo patterns are changing, more east-west, Pacific Rim trade
- Load centering is becoming more important: e.g. TFL with Houston
- Deregulation reduces captive cargo

**Facilities**

- Warehouse space is considered inadequate by some, e.g. forest products
- One real crane

**Source:** Gulf Engineers & Consultants.

state and make shippers and the maritime industry more aware of possibilities at the port. As an example, the Journal of Commerce, the leading source for transportation news, recently (Friday October 13, 1989) published a special report on international produce shipments. This issue would have been a choice opportunity to promote the port since it is a leader in this market in terms of tonnage and numbers of containers shipped. Costs associated with print marketing will be discussed below.

Difficulties presented because of the relatively small size of Gulfport cannot plausibly be overcome. Successful small ports are supported by captured cargo (e.g., ilmenite ore for Dupont) or are able to find a niche in which they present an identifiable advantage to shippers. Gulfport has found such a niche with the banana industry. The size of Gulfport will continue to present problems for which there is no solution. Nevertheless, even with load centering (the process of conglomerating operations so that a shipping line visits only one port within a region) increasing, small and medium sized ports are still viable.

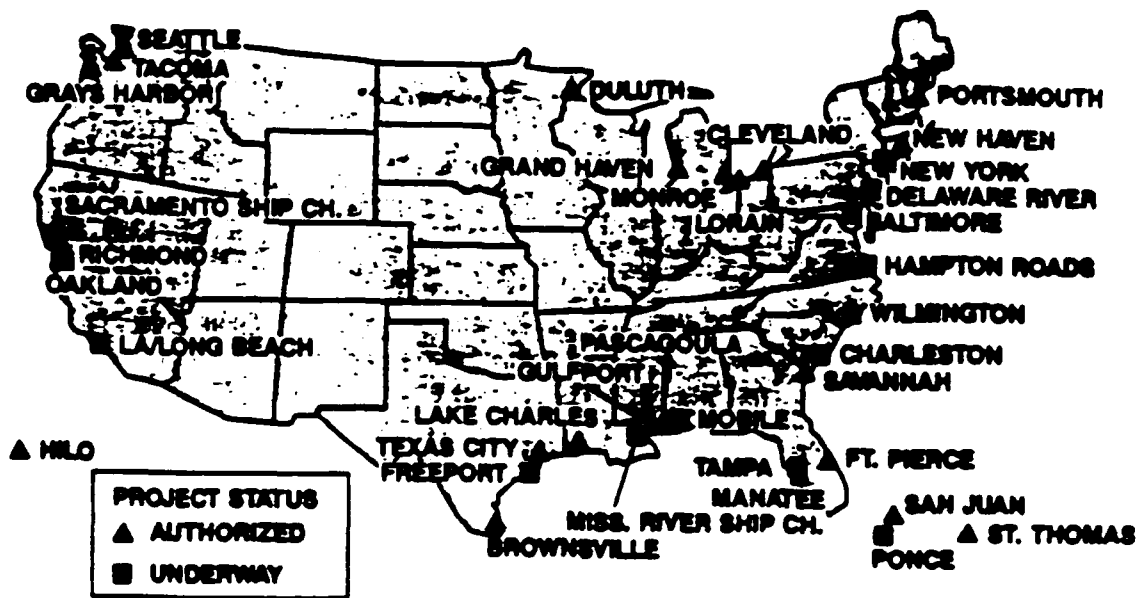
The problems with rail connections have been discussed above. To reiterate, compared to New Orleans its most relevant competition, Gulfport has a distinct disadvantage. In addition, the split ownership of the Gulfport to Jackson rail line may continue to handicap port development efforts.

Two of the above factors, namely the size of the port and the rail connections, generate cost disadvantages. Shippers in some circumstances may require that containers be delivered (drayed) to New Orleans requiring a drayage charge. The split ownership of the Gulfport to Jackson line adds an extra switching charge to many north-south rail movements.

The transportation industry has undergone and is continuing to undergo dramatic changes both nationally and internationally. Many of these changes are not beneficial to Gulfport. In the Gulf region, massive investment programs at public ports are the norm instead of the exception. The latest port to announce a facility facelift is the Port of New Orleans which is about to begin a five year, \$180 million renovation and addition to facilities. Several ports in the United States are also planning or have underway channel deepening projects (Figure VI-1).

Some complaints were voiced over the facilities available at Gulfport (other than the lack of channel depth). In particular, warehouses available are not considered adequate by some potential clients. The availability of only one container crane may also present

Figure VI-1. Channel Deepening Projects in United States



Source: U.S. Army Corps of Engineers, Institute for Water Resources, Leigh Skaggs and David Grier, "Current Status of Cost-Shared Deep-Draft Harbor Projects, 1989.

problems, particularly as other ports upgrade their cranes. Gulfport has a second crane but it is not considered adequate for competitive loading and unloading of containers.

There are of course a great many positive attributes that are able to offset the negative items listed above. Exhibit VI-2 provides a summary of important advantages at Gulfport. In all of the categories for which Gulfport shows unfavorable characteristics it also demonstrates positive characteristics.

Gulfport is considered to be an easy port with which to work. Policies are flexible and special terms can be arranged for clients. For example, the port reduced wharfage rates temporarily in an attempt to help attract breakbulk bagged goods cargo. Though the effort was not successful, it illustrates the willingness of the port to respond to perceived opportunities. Promotional rates are being introduced as part of the new marketing plan.

The new staff at the port and the potential for increased depth and additional facilities provide a basis for a new marketing effort. Past successes can be touted while focussing on the new advantages presented to potential shippers through the port.

The smaller size of the port can sometimes be an advantage. For example the flexibility described above would be difficult to find at large ports. The attractiveness of Gulfport to banana shippers is certainly enhanced by the close attention that a small port

**Exhibit VI-2. Positive Features Related to Development  
at Gulfport Harbor**

**Administration and marketing**

- Port is flexible and easy to work with
- Flexible storage policy
- New facilities and staff provide basis for marketing efforts
- Marketing plan shows understanding of marketing needs

**Size**

- Some lines like to work with smaller ports where they can get close attention
- New Orleans is unpopular with some in the maritime industry: facilities, labor and management attitude
- Less inconvenience: one pilotage as opposed to three at New Orleans

**Inland transport**

- Reasonable interstate connections
- Less city road traffic to deal with than in many large cities
- MidSouth Railroad is willing to work with port and shippers
- MidSouth has a good reputation
- Fairly central location

**Costs/productivity**

- Good labor productivity
- Good labor attitude and flexibility
- Low fees by port: dockage and wharfage
- Low charges for ancillary services

**Industry Changes**

- Latin/South America and Caribbean may become viable trading partners over long term
- European Community '92 may provide shipping opportunities
- Rail situation may improve
- Little expected increase in draft of container ships likely to use Gulfport
- Lumber/paper industry strength

**Facilities**

- Reasonably good facilities, good crane
- Adequate storage for containers (with new container yard)
- Adequate depth (with the 36' channel)

**Source: Gulf Engineers & Consultants.**

can deliver. With respect to the Port of New Orleans, Gulfport has a particularly good reputation for its labor, stevedoring and port staff attitude.

The relatively poor rail connections serving the port are countered by very good road connections. Interstate access is good and local traffic is reasonable (or will be when local road construction is completed). While the poor rail connections at the port are unlikely to change significantly in the short term, MidSouth is considered a model small railroad and emphasized its willingness to work to make the best of the rail situation.

As the Appendix A. Economic Analysis of the Corps of Engineers' GDM relates, Gulfport with a deeper channel provides cost advantages to shippers over competing ports. Port charges (e.g., dockage and wharfage) are lower than in competing ports. Charges for ancillary services such as pilotage and stevedoring are in most cases either competitive or lower than in competing ports. In addition, labor productivity is good and labor attitude is considered to be a significant advantage. Some indications are that the per container throughput charge at Gulfport may be ten to twenty percent lower than at New Orleans.<sup>1</sup>

Several changes in national and international conditions may also work in Gulfport's favor. Most important is the potential for improved economic circumstances in the natural trading partners for Gulf region ports, namely Latin and South America and the Caribbean. It is impossible to forecast whether these countries can overcome their profound debt, economic and political problems. While it is unlikely that they will grow at rates exhibited by Pacific Rim countries, even moderate growth with reductions in debt load would improve prospects for increasing north-south trade.

Many U.S. ports are increasing channel depths well beyond the 36 feet of the Gulfport project. This should not be a significant disadvantage since it is unlikely that the large, new generation container vessels would serve Gulfport. The vast majority of existing container ships serving the Gulf region draft at 36 feet or less.

Finally, the facilities at Gulfport are considered to be reasonably adequate except for channel depth. The main container crane has sufficient lift and productivity for the needs of Gulfport.

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<sup>1</sup>Because of the confidential nature of stevedoring charges and the day-to-day changes in those charges, these numbers should be considered to be subject to change and to significant error.

### Port Marketing Efforts

The above brief outline of advantages and disadvantages is no substitute for a sincere self examination by the port. Whether the self examination is conducted by a formal strategic planning effort or informally through discussions and other means, Gulfport needs to define its goals and plans. The following sections describe the study team's analysis of available marketing materials and efforts at Gulfport.

The port has marketed itself mainly through the following means:

- (1) Publication of a port magazine, Mid America's Gulfport
- (2) Development of cost comparisons for potential clients
- (3) Direct contacts with potential clients

The success of these efforts has been hampered by the lack of channel depth, particularly with respect to courting container lines. Several potential shippers commented that the port's marketing efforts have been insufficient and ineffective. On the other hand, several steamship lines noted that without a deeper channel, the port had little to sell; "Come back when the channel is deeper" was the typical comment.

The marketing methods listed above have their place in a port marketing strategy. The port magazine is unlikely to attract much new cargo but it does show the community that the port is an economic development tool within the community. The latter two methods have been used in combination in attempts to attract new steamship lines. Unfortunately it appears the lines that have been courted require a deeper channel before a commitment can be made. These efforts are not necessarily to no avail since they lay the groundwork for marketing once a deeper channel is available.

Direct marketing efforts with cost analyses have been used to show potential steamship lines the cost advantage of using Gulfport vis-a-vis competing ports. Cost advantages are not relevant for the transportation segment within the port. Cost advantages exist only for the entire origin-destination shipment including ocean freight costs and inland rail and trucking costs. The port has, of course, emphasized the pure savings from the public port charges. At the same time it has attempted to bring together potential clients with the other major participants in the process, namely the stevedores and pilots. Perhaps closer cooperation could be made with the inland transportation network, particularly the railroads, to make the cost comparisons complete.

Costs comparisons of this type can be helpful but they rarely capture the full costs to steamship lines. For example, the costs of moving to a new port include moving

employees, developing new relationships with ancillary firms and abandoning infrastructure. The lines have a certain amount of inertia that cannot be overcome by a slight apparent cost savings.

The new port staff provided the study team with an outline marketing plan and, later, the final complete plan (appendices C and D). Two items should be noted. First, the new executive director began only in August meaning he had only two months to prepare the outline. Given that the director needed time to learn about the port, he had, realistically, even less time to prepare. Second, the new director of marketing had not been brought on staff until after the outline was prepared. Nevertheless, in the short preparation time available to them, the port staff was able to prepare a succinct, workable and practical statement of marketing for the Port of Gulfport. The plan reflects a good understanding of the dynamics of the shipping industry and of the position of Gulfport within it.

The marketing outline first provided to the study team was too vague and unfocused. The final plan allayed those concerns. It shows a commitment to approaching the marketing program on a step by step basis, with clearly defined methods and goals. The plan is well focused.

A key element in the marketing plan is in providing the background information and databases needed to effectively focus the effort. The plan emphasizes several methods of developing the data. First, the shipping lines presently operating in the Gulf were identified. This limits the number of firms to whom one must market and spotlights those that already see an advantage in shipping in the area. Second, the port has completed a survey of firms within Mississippi that may use the port (the survey form is reproduced in Appendix C). Third, the port contemplates a subscription to the P.I.E.R.S. database service sold by the Journal of Commerce. This database of waterborne international shipments will allow the port to match shipping lines with the firms located by the survey. In addition, P.I.E.R.S. will enable the port to identify and evaluate possible commodity types that are good candidates for movement through the port.

The marketing plan indicates that the marketing effort will use advertising (print and multi-media), direct sales, use of agents, selling of value added services and the foreign trade zone (FTZ) and promotional port pricing. All of the elements seem to be well thought out. The proposed budgets are realistic and precise. Finally, the plan is comprehensive, particularly given the amount of time available for preparation.

The marketing plan also lists specific goals for the year ahead. The development of goals is clearly required, and the goals themselves are comprehensive. The goals are possibly too aggressive and optimistic, particularly until the channel deepening is accomplished. Certainly they present a challenging assignment for the port staff over the next few years.

The plan exhibits a commitment to undergoing a thorough examination of the port's strengths and weaknesses in relation to its goals. This effort will reduce the choices that must be made and make a difficult job more manageable. The resources available to Gulfport will not allow for an undisciplined and unfocused effort.

Clearly a commitment to increasing the profile of the port is both necessary and costly. One method to bring immediate results, at least in terms of exposure, is print advertising. The amount budgeted for advertising in the marketing plan, \$60,000, would allow for an extensive program. For example, a weekly 3" by 4" advertisement in the Journal of Commerce would cost approximately \$25,000. A series of sixteen 5" by 8" advertisements in special Journal reports such as the produce edition would cost a similar amount.<sup>2</sup> Other publications that should be considered include American Shipper, Worldwide Shipping and Containerisation International.

In addition the staff should attempt to develop a closer relationship with those serving the port, specifically the MidSouth Railroad. Difficulties with the regional rail situation that have been discussed in this chapter cannot be overcome without cooperation and a willingness to find mutually advantageous innovations.

#### Competitive Analysis of Rail Access to the Port of Gulfport

The importance of rail issues to the development of the Mississippi State Port Authority at Gulfport necessitates an in depth analysis of rail access at Gulfport. This objective is accomplished in several steps. The analysis starts with a brief overview of rail access to the Port of New Orleans, a major competitor of the Port of Gulfport. Railroads serving the Port of New Orleans are identified and major rail facilities located in the city are described. An analysis of rail service at the Port of Gulfport follows. Railroads serving the city and the port are identified with particular attention given to the MidSouth

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<sup>2</sup>Data from telephone conversations with John Murphy, Advertising Manager, Journal of Commerce.

Corporation, the only railroad serving the port. An examination of major deficiencies in rail access to the port concludes the analysis.

### Rail Access to the Port of New Orleans

There are six trunk line railroads linking the Port of New Orleans to points of destination in the contiguous United States. The Union Pacific and the Southern Pacific serve the U.S. western markets. The U.S. central region is served by the following railroads: the Southern Pacific (SP), Union Pacific (UP), Illinois Central (IC) and the Kansas City Southern. Two railroads, CSX Transportation and Norfolk Southern, serve the markets located east of the port.

The U.S. railroad system is divided into eastern and western sectors by the Mississippi River. Three railroads serving the port provide transportation within the eastern sector: the CSX, Norfolk Southern and Illinois Central. Three railroads serve points of origin and destination located west of the river: the Southern Pacific, Union Pacific and Kansas City Southern. Location constitutes a significant competitive advantage for the Port of New Orleans. With three railroads serving points east of the Mississippi River and three railroads serving points west of the river, there is easy access from the port to almost any point in the United States. The port provides opportunities for fast and efficient transfer of trains between the eastern and the western railroads.

The single disadvantage of rail access to the Port of New Orleans is the New Orleans Public Belt Railroad (NOPB) which was formed by the City of New Orleans to provide switching services to all the railroads serving the port. The NOPB serves most public wharves on the Mississippi River, the Industrial Canal and the Mississippi River-Gulf Outlet and about 100 industries in the area. The purpose of the New Orleans Public Railroad is to "supply comprehensive, economical and non-discriminatory switching service to all who require and can use it." It operates 145 miles of track consisting of 47 miles of main track and 98 miles of yard tracks and sidings. Currently the NOPB serves four railroads located on the east bank of the Mississippi River: the IC, Kansas City, Norfolk Southern and CSX, and two railroads located on the west bank of the river: the SP and the UP.

There are three categories of switching services performed by the New Orleans Public Belt Railroad: a) connection switching between points on the NOPB and other railroads; b) intermediate switching between two other railroads via the NOPB; and c) intraterminal switching between points on the NOPB.

The NOPB handles 50 to 70 revenue carloads a day (1400-1500 revenue carloads per month), the majority of which is of breakbulk cargo. Container movements constitute less than 10 percent of their traffic. Cargo volume moved by the NOPB has been deteriorating for the last 15 years. Some factors beyond the NOPB's control, such as industry relocation, plant closures and shift of breakbulk cargo to containers that bypass the NOPB, contributed to the loss of cargo base. The smaller cargo base, high operating expenses and high labor expenses have contributed to a worsening of the railroad's financial situation. To offset the drastic drop in revenues the NOPB has substantially increased switching charges. NOPB's slow and unreliable switching services, often resulting in two day delays, are perceived by railroads serving the Port of New Orleans as a significant impediment to providing efficient services. Additionally, the NOPB was conceived of as part of boxcar transportation technology. This distribution system is generally regarded as obsolete. Therefore, the belt railroad concept may also be obsolete.

Nevertheless and in summary, rail accessibility constitutes a significant competitive advantage for the Port of New Orleans vis-a-vis Gulfport. The port is served by six major railroads and has very competitive rail access to any major market in the continental U.S. Shippers often profit from the low rates to/from New Orleans resulting from the competition between the railroads serving the port. New Orleans is particularly competitive for attracting containerized cargo shipments from Louisiana, Mississippi and Alabama. The city is served by several double-stack trains that provide competitive access to the major container ports located on the East and West coast. The inefficient switching service provided by the New Orleans Public Belt Railroad constitutes the only serious competitive disadvantage of the Port of New Orleans in terms of the rail access. However, the negative impact of the NOPB has recently decreased since more cargoes are shipped directly through individual yards without using the NOPB's services.

#### Railroads Serving the City of Gulfport

Two railroads, the CSX and the Midsouth cross the City of Gulfport. The CSX's trunk line, New Orleans to Mobile and then into Florida, is located in the northern section of the city. This is one of the most important lines operated by the CSX railroad. It is therefore maintained in excellent condition. According to the CSX officials the maximum train speed on this line is 59 miles per hour. Gulfport and Pascagoula are the CSX's key interchange points on this line. In Gulfport the CSX interchanges with the MidSouth Corporation and, in Pascagoula, with the Mississippi Export Railroad Company. The

MidSouth Corporation operates trains on the north-south route between Hattiesburg and Gulfport. This is a former Illinois Central line that was purchased in 1986. The technical condition of track on this route has been significantly improved; in 1986, it was a 10 mile an hour route, it is now a 25 mile an hour line. The Illinois Central provided three day a week service in 1986. The MidSouth Corporation currently operates trains six days a week.

#### The MidSouth Corporation

The Port of Gulfport is served exclusively by the MidSouth Corporation (Figure II-2). Due to the importance of this railroad to the port, a brief description the MidSouth Corporation follows.

The MidSouth Corporation is comprised of three subsidiaries: the MidSouth Rail Corporation, the MidLouisiana Rail Corporation and the SouthRail Corporation. The company was launched in 1986 on lines split off from the IC Railroad.

Since 1986, the MidSouth Corporation has been one of the most successful regional railroads in the U.S. One of the most important steps in ensuring rail efficiency was a successful negotiation of favorable union contracts that contributed to significant reduction of labor costs. For example, five member train crews, as required for other railroads, were substituted by two or three man crews. This significantly increased MidSouth's competitiveness.

The MidSouth Corporation moves trains on 1,200 miles of track. Forest products make up more than half of the railroad's business; other major products are chemicals and grains. The railroad is also involved in brokering of transportation services.

Currently, the railroad operates 11 routes. The major MidSouth line is a 308 mile long route connecting Meridian, MS with Shreveport, LA. The other major routes are: Gulfport, MS to Hattiesburg, MS; Hodge, LA to Gibsland, LA; Hodge, LA to Winnfield, LA; Corinth, MS to Mobile, AL; Middleton, TN to Woodland, MS; Artesia, MS to Tuscaloosa, AL; and Aberdeen, MS to Bay Springs, MS.

The Midsouth Corporation interchanges cars with several major railroads. The description of major interchange points and major interchanging railroads follows. In Shreveport, the MidSouth Corporation interchanges cars with the Kansas City Southern, Southern Pacific and Missouri Pacific. In Jackson, the MidSouth Corporation interchanges with the Illinois Central. Hattiesburg is the MidSouth's important interchange point, where cars are switched with the Illinois Central and the Norfolk Southern. In Meridian, the railroad interchanges cars with the Norfolk Southern and the CSX. Corinth is also an

important switching point. The railroad exchanges cars in this city with the Norfolk Southern. Additionally, the MidSouth and the CSX interchange rail cars in Gulfport.

#### Major Deficiencies of Rail Access to the Port of Gulfport

The following deficiencies to rail access at the Port of Gulfport were identified in the course of the analysis: lack of direct access to major markets, rates, switching charge and other competitive factors in the rail industry.

The MidSouth Corporation does not provide direct access to major markets. Cargoes shipped from the Port of Gulfport are interchanged either with the CSX at Gulfport or the IC or the Norfolk Southern at Hattiesburg. This relationship is of particular importance for attempts to attract U.S. foreign aid Public Law 480 bagged good shipments to the port.

Before March 1986, the Jackson - Gulfport line was owned by IC Railroad. The IC provided direct service to several major cities, including Chicago, the largest U.S. rail hub. However, for a long period of time the opportunities resulting from the direct access to major markets were not utilized. From 1983 to 1986 the railroad's interest in this line was minimal for two reasons. First, deregulation and intermodalism prompted the railroad to focus its marketing efforts on major hubs. As a result, the railroad concentrated its marketing and operational efforts on developing services and facilities located in New Orleans and attracting cargo to the Stuyvestant Yard. Second, shipping lines introduced load centering practices which resulted in deterioration of cargo volumes shipped via small ports like the Port of Gulfport. Under these circumstances, the IC decided to sell a portion of that line to a regional railroad. By selling only a portion of the Jackson - Gulfport line, IC railroad has retained the ability to significantly influence MidSouth's shipments between Hattiesburg and Gulfport.

MidSouth Corporation must absorb in its rates IC's charge of about \$100 for each car movement (\$50 for empty cars) between Jackson and Gulfport. However, there are indications that the MidSouth Corporation can afford to offer competitive rates even with the IC charges. The IC charge may not pose as significant a disadvantage to MidSouth competitiveness on the Jackson - Gulfport route as first appears.

The situation is more complicated in the case of long hauls, such as containerized cargo shipments between Gulfport and Chicago. Through the implementation of appropriate pricing strategies, the IC is trying to attract containers to its yard in New Orleans. Research indicated that the rates offered by the IC for container shipments

between Chicago and Hattiesburg are often equal or close to the rates quoted for shipments between Chicago and New Orleans. This prevents movements via Gulfport since the MidSouth Corporation would have to move containers between Hattiesburg and Gulfport either for free or below its costs. The interviewed IC officials expressed their interest in negotiating a joint line rate with the MidSouth for containerized cargo shipments to the Port of Gulfport, providing that a sufficient cargo volume is attracted to this line. Therefore, the competitive disadvantage resulting from the lack of direct access to major markets may be eliminated by creating a stable cargo base for the Port of Gulfport, for example by attracting a regular container shipping line to the port.

In a time of deregulation, the majority of rail shipments are based on individual contracts. Since the contracts are confidential and negotiated rates are not published, it is extremely difficult to analyze rail competitiveness. Some limited information on rates was obtained from several railroads. Based on the analysis of this data, it appears that the MidSouth rail is capable of developing competitive rates for many shipments to the port. However, the research also indicated that often non-rate factors prevent attracting rail shipments to the port. The most common non-rate factors are lack of proper loading and unloading facilities, lack of covered storage space and time.

On several occasions, the MidSouth Corporation was successful in developing joint line rates with the Norfolk Southern and the Illinois Central railroads. However, at the present time, when the cargo flows between the Port of Gulfport and Hattiesburg are very limited, the connecting railroads are less interested in establishing these rates.

For a long period of time the MidSouth's switching charge was perceived as a major impediment to attracting cargo to the Port of Gulfport. The reciprocal switching charge for the CSX traffic has been recently reduced by the railroad from \$252 to \$150 (Appendix E). An analysis of similar charges quoted by other railroads indicates that a \$150 rate is competitive. In return for the reduction of the switching charge the MidSouth Corporation gets a car hire release from the CSX for 120 hours.

Rates are an important factor but not the only competitive factor considered for rail shipments. Three factors, operating cost, car distribution and load balancing, have particular importance in assessing capabilities and constraints of the rail system serving the Port of Gulfport.

Major railroads incur high costs in operating and maintaining large switching or intermodal yards. Therefore, railroads strive to maximize the number of cargo shipments

through these terminals to support the capital expenditure at the facility. Railroads try to accomplish this task by offering competitive rates to/from terminals or making special arrangements for cargo movements. For example, the CSX railroad trucks cargos from Mississippi to its yard in New Orleans to move by rail to various destinations in the eastern U.S. This results in cargo diversion from Gulfport and the MidSouth rail. The second factor, car distribution, significantly impacts the railroad's competitive strategies. To avoid inadequate car supplies which often negatively impact rail profitability, railroads tend to increase their shipments at those origin/destination points where car supply is adequate. Load balancing is the next factor influencing railroad strategies. In attempting to limit empty hauls, railroads tend to consolidate cargo at points of origin and destination where the outbound and inbound cargo flows are balanced. These factors negatively affect Gulfport's competitiveness for rail shipments, since the major railroads strive to divert cargo to their facilities in New Orleans and Mobile. This adverse situation may be alleviated by: a) increasing cargo volume shipped through the port; or b) increasing the port's drawing area.

**VII. ECONOMIC IMPACTS CHANNEL DEEPENING  
AND CONTAINERYARD EXPANSION**

## VII. ECONOMIC IMPACTS CHANNEL DEEPENING AND CONTAINERYARD EXPANSION

The economic impacts of deepening the channel at Gulfport Harbor and increasing the size of the containeryard fall into three categories: first, the immediate and temporary impacts from construction; second, the long term and permanent impacts from increases in port traffic; and, finally, the long term and permanent impacts from increases in net income brought about by reductions in transportation costs. This chapter describes the permanent impacts of the latter two categories. Construction impacts are described in Chapter V.

The most important category of impacts for this project are the impacts directly arising from activities at the port and in other segments of the transportation industry. These throughput impacts are also the most uncertain since they are dictated by what happens with container and other commodity movements at the Gulfport Harbor. Therefore, four scenarios were examined to present an impression of the possibilities and risks involved in the project.

Certain impacts are more assured. The increase in net income due to reductions in transportation costs to DuPont, importers and purchasers of fishmeal and banana importers will all materialize when they begin using the deeper channel. The construction impacts are also conclusive except in degree. The impacts from these categories should be considered to be best estimates that will vary slightly as conditions in the economy change.

Estimates of tonnage used to estimate the impact of new throughput at Gulfport were derived from two sources. The first source and the starting point of our analysis was the Appendix A. Economic Analysis of the General Design Memorandum, Mobile District Corps of Engineers. This source was validated by interviewing shippers, potential shippers, economic development specialists in the area, stevedores, shipping agents, shipping lines, railroads and other knowledgeable sources. The interview process lead to minor changes in some of the tonnage estimates from the COE report. This is to be expected because of the time that has elapsed since the Corps' surveys used to determine base year tonnage. One of the scenarios examined uses the tonnage projections from the COE report.

Base year tonnage estimates used to estimate the impacts of the project are presented in Table VII-1. These tonnage figures are *net increases* (i.e., these are increases in tonnage throughput that can be directly attributed to deepening the channel and/or expanding the containeryard storage space) so that the true impacts of the project to the

Table VII-1. 1995 Tonnage Estimates with Gulfport Harbor Deepening

Commodity	Net Tonnage Accepted	Total Tonnage Accepted
Ilmenite Ore	49,600	376,000
Fishmeal	12,500	52,500
Scrap Steel	336,000	336,000
Bananas	0	500,000
Containers	206,850	206,850
<b>TOTAL</b>	<b>604,950</b>	<b>1,471,350</b>

Source: Appendix A. Economic Analysis. General Design Memorandum, Gulfport Harbor, Mississippi, U.S. Army Corps of Engineers, Mobile District, 1989; and Gulf Engineers & Consultants.

state and local economies can be estimated. In the analyses of the net increase in income (transportation cost savings), total tonnage estimates are used since the transportation savings accrue to all tons not just to new tons. In the case of tonnage throughput impacts only net tons are important for the purposes of estimating net increases. Table VII-1 presents both cases.

As the most likely case, we assume these tonnages will materialize at Gulfport Harbor with a 36-foot channel. Other commodities, such as general cargo made up of forestry or agricultural commodities, could divert to Gulfport with a deeper channel. The analysis of impacts from scrap steel can be used as a proxy for likely changes in general cargo. If scrap steel, containers and as yet unidentified general cargo materialize, the impacts will be higher than estimated here.

The scrap steel estimate is based on export tonnage from a local scrap dealer using the Port of New Orleans. A second scrap firm ships smaller amounts of steel from the area, but this steel is accumulated in Baton Rouge for shipment. There will be a strong inducement for these companies to ship through the port in view of the savings possible. It is likely that some relatively low value general or bulk cargos will be shipped through Gulfport with a deeper channel.

To show the boundaries of possible results from the project, four scenarios were considered. The focus will be on the most likely scenario projections but summaries of three other scenarios will be discussed. One scenario uses the tonnage projections found

in the Appendix A. Economic Analysis of the General Design Memorandum. The tonnages are very similar to the most likely scenario. The most likely scenario adjusts tonnage projections for changes in company level forecasts disclosed in the study team interview process. The Appendix A. Economic Analysis projects smaller tonnages for the following categories: containers, 25,150 tons; fishmeal, 10,200 tons; and bananas, 109,200 tons assuming a March, 1995 construction completion date. The other two scenarios vary the assumptions on amounts of container tonnage.

The pessimistic scenario assumes that no new containers (except the increased containers carried on ABC Containerlines' conbulklers) will be attracted to the Port. Unfortunately this possibility cannot be ruled out. All container lines interviewed were at least moderately interested in examining possibilities at Gulfport but none, of course, were willing to commit. The maritime industry is very competitive, and long term projections are impossible to make with certainty.

It is possible that improvements in, for instance, the economies of Gulfport's natural trading partners in this hemisphere, could lead to more than a single container line coming to the port or for a weekly instead of biweekly service to be attracted. Under this optimistic scenario, with perhaps 390,000 tons per year of containerized cargo throughput, the impacts of the project would be particularly dramatic.

Projections of tonnage changes over time were based on the growth factors developed for the COE Appendix A. Economic Analysis. Tonnage projections for the 30 year period, 1995 to 2025, are presented in Table VII-2. Total tonnage is projected to grow at a 1.48 percent annual rate. A 30 year project period was chosen since it is unlikely that any bond issue for the project would be for more than 30 years.

Table VII-2. Net Increase Tonnage Projections, Gulfport Harbor, 1995-2025

Year	Containers'	Scrap Steel	Ilmenite Ore	Fish Meal	Total Net Tons
1995	206,985	336,000	49,600	12,500	604,950
2005	237,703	414,021	56,998	14,364	723,087
2015	273,158	510,158	65,500	16,507	865,324
2025	309,568	615,629	74,230	18,707	1,018,135

\*Container tonnage includes containers carried on ABC Containerlines' conbulklers.

Source: Gulf Engineers & Consultants.

### Direct Impacts

The tonnage throughput described above has direct impacts on the state and local economies. The impacts fall into various categories including navigational services (e.g. pilotage), business services (e.g., freight forwarding, customs house brokerage), stevedoring, equipment rental, terminal charges, wharfage, crew expenses and inland transportation. The PortKit provides estimates of these direct impacts from port throughput.

The largest impacts from tonnage throughput due to the channel deepening and containeryard expansion are from inland transport by truck and train of commodities being shipped in and out of Gulfport (Figure VII-1). Port charges, including wharfage, dockage, equipment rental and warehousing, are estimated to generate \$804,963 base year revenue. Stevedoring and container stuffing and stripping charges total \$1,030,553. Business services generate \$460,693 in the first year. Direct impacts total \$10.2 million.

In addition to impacts on total business sales, tonnage throughput generates employment, taxes and personal income. Table VII-4 (page 73) summarizes the direct impacts from tonnage throughput. Direct employment increases by 109 full time jobs and income increases by \$2.8 m. These are annually recurring impacts that will increase as tonnage throughput increases.

Other direct impacts are generated from the reductions in net transportation charges to firms operating in Mississippi (Table VII-3). For example, the cost of importing ilmenite ore for the DuPont plant will be reduced by over \$1 m. annually. Note that transportation

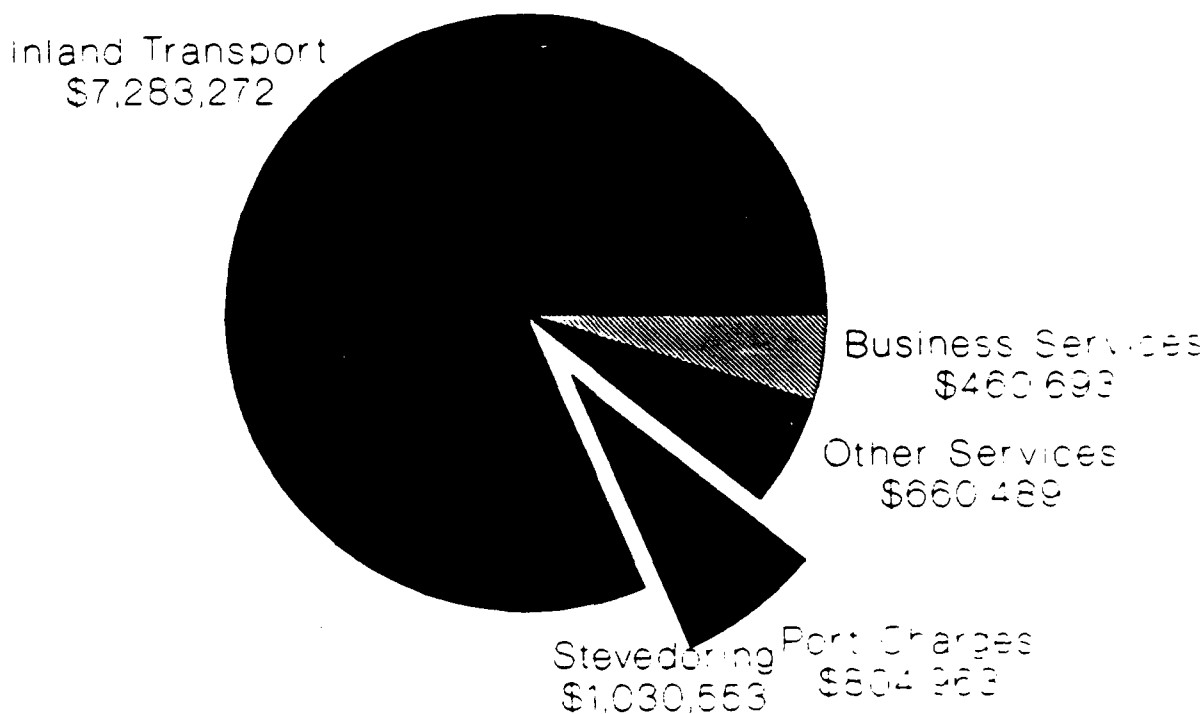
Table VII-3. Year 1 Impacts, Net Income Increases from Transportation Savings from Channel Deepening and Containeryard Expansion at Gulfport Harbor (October, 1989 dollars)

Commodity	Local Increase	State-wide Increase
Ilmenite Ore	941,367	1,042,227
Fish Meal	78,733	94,000
Scrap Steel	619,144	739,200
Bananas	86,900	103,750
TOTAL	1,726,143	1,979,177

Sources: Appendix A. Economic Analysis, General Design Memorandum, Gulfport Harbor, Mississippi, U.S. Army Corps of Engineers, Mobile District, 1989; and Gulf Engineers & Consultants.

**Figure VII-1. Direct Impacts of Tonnage Throughput at Gulfport Harbor  
Due to Harbor Deepening and Containeryard Expansion**

(October, 1989 dollars)



Source: Gulf Engineers & Consultants.

cost reductions accrue on all tons not just new tons. The total net increase in income is estimated at \$2.0 m. annually.

The reductions in transportation costs reduce costs to agricultural producers through lower prices on fishmeal, make scrap dealers more competitive on worldwide markets and improve long term prospects for banana and ilmenite importers. The improved strength of these industries cannot be meaningfully estimated. The benefits certainly exist particularly in the long term.

#### Multiplier Impacts

The key objective of this study is an estimate of the total direct, indirect and induced impacts in the three county region and the state of Mississippi from channel deepening and containeryard expansion at the Mississippi State Port Authority at Gulfport. This section

describes these estimates for total business sales, income, employment and state and local taxes.

By providing the proper inputs for the MARAD PortKit, the model generates input-output multipliers for the region and port under investigation (see Chapter III for a description of the methodology). The multipliers are applied to the direct impacts described above to generate total impacts.

The input-output multipliers generated by the model are as follows:

	State-wide	Local Region
Sales:	1.62	1.43
Employment:	1.89	1.76
Income:	1.57	1.35

Therefore, a direct increase in sales of \$1 generates an additional increase in sales of \$0.62 within the economy of Mississippi and \$0.43 in the three county region. These multipliers are reasonable as compared to multipliers generated by other models (see Chapter III).

The estimates of multiplier impacts of movements at Gulfport are lower (on an impact per ton basis) than for multiplier estimates provided in the MARAD PortKit Manual. The differences occur for the following three reasons: (1) the estimates made here are for *net increases* in port traffic as opposed to total impacts from all port operations. For example, if the deepened channel leads to more tonnage but not more ship visits then some port charges will not increase; (2) rates for services, whether public port charges or charges by private operators like stevedores, are considerably lower than at typical East and West coast ports; and (3) some port services are provided outside of Mississippi. The multiplier impacts are still considerable and are only relatively and not absolutely low. In addition, if Gulfport becomes more successful and attracts more cargo, the multipliers will increase as firms find it advantageous to provide services from a local office rather than from an out-of-state location.

The impacts themselves are presented for the base year in Table VII-4 and in figures VII-3 and 4. These impacts are based on the most likely scenario of a biweekly liner container service. The table divides impacts into throughput, net income and total categories. Impacts are also shown for the local three county area as well as the state. Construction impacts are not included in these numbers.

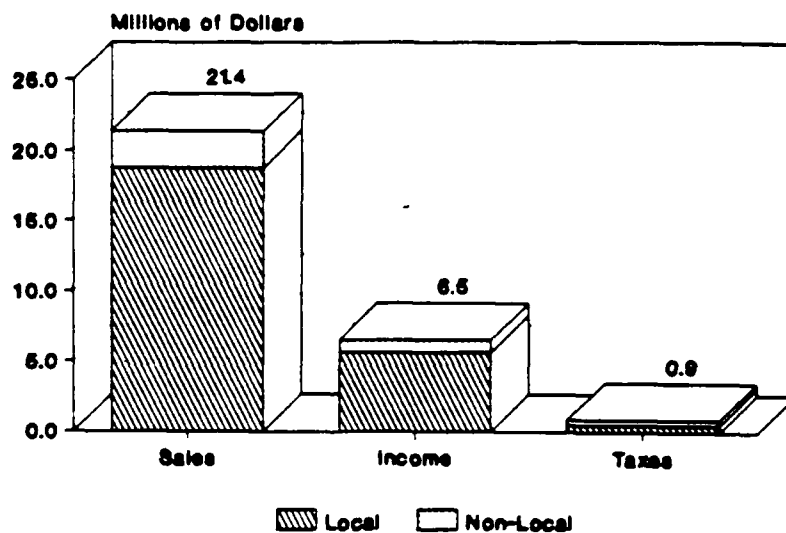
Total sales (the total increase in business transactions) due to the project are projected to reach \$21.3 million of which \$18.8 m. occurs in the local region. Income to Mississippi residents and firms increases by \$6.5 m. Full time employment increases by 351. Income for the each new job averages over \$20,600 per annum.

Table VII-4. Year 1 Total Impacts of Gulfport Harbor Deepening and  
Containeryard Expansion Project, Most Likely Scenario  
(October, 1989 dollars)

Category	Local Impacts	State-Wide Impacts
Throughput Impacts		
Sales	14,762,672	16,751,968
Income	3,822,766	4,434,408
Employment	194	208
Taxes	336,117	640,610
Net Income Impacts		
Sales	4,025,773	4,608,953
Income	1,806,831	2,070,645
Employment	121	143
Taxes	158,866	231,260
Total Impacts		
Sales	18,788,445	21,360,921
Income	5,629,597	6,505,053
Employment	315	351
Taxes	494,983	871,870

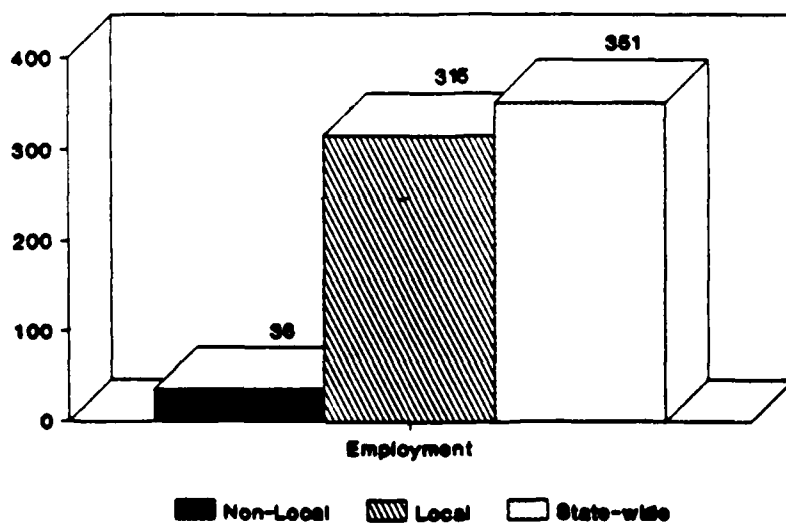
Source: Gulf Engineers & Consultants.

Figure VII-2. Base Year Sales, Income and Tax Impacts, Gulfport Harbor Channel Deepening and Containeryard Expansion



Source: Gulf Engineers & Consultants.

Figure VII-3. Base Year Employment Impacts, Gulfport Harbor Channel Deepening and Containeryard Expansion



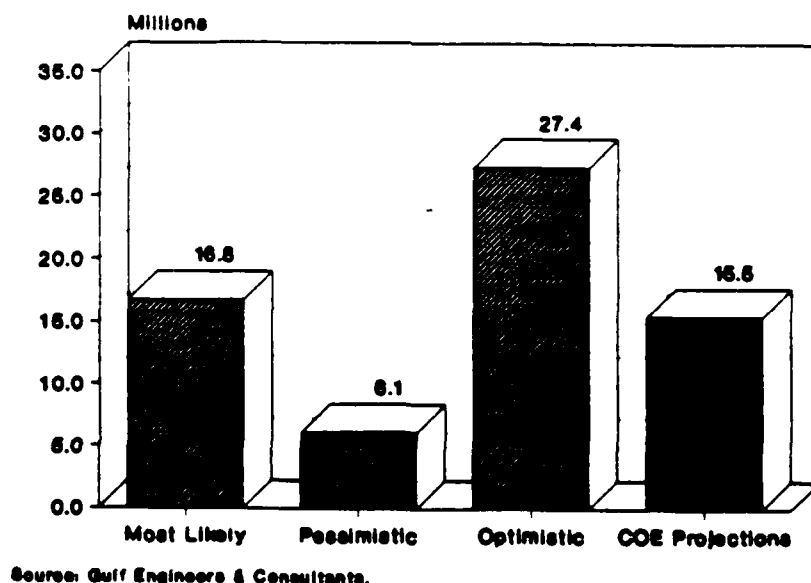
Source: Gulf Engineers & Consultants.

### Scenario Comparisons

The impacts were re-estimated under the four scenarios outlined above. The estimates vary substantially under the most likely, pessimistic and optimistic scenarios. This establishes the importance of the attraction of a container line to the success or failure of the project. Figures VII-4 through 6 show the impacts in terms of sales, income and employment. *Note that the impacts are only for port throughput and do not include net income from transportation savings or construction impacts.* Sales are projected to vary between \$6.1 m. and \$27.4 m. on an annual basis for the first year of port operation under the deeper channel. Income and employment have similar variations.

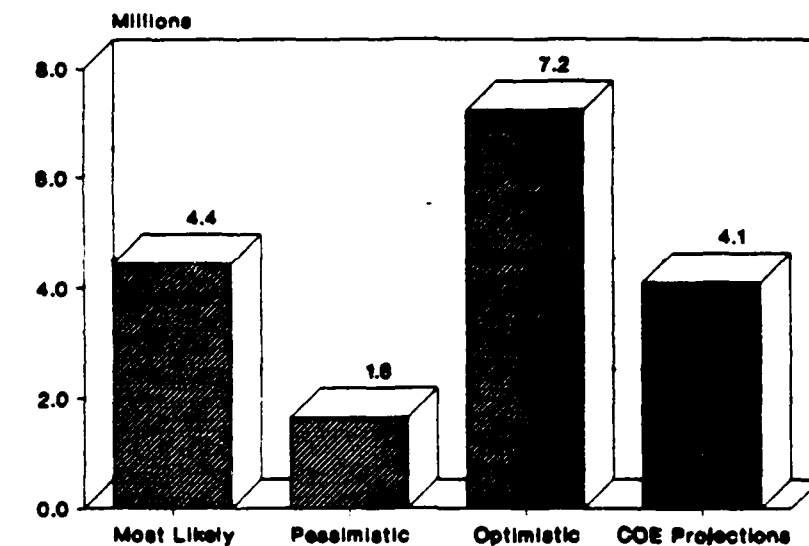
Container shipments have such dramatic impacts for several reasons. On a tonnage basis port and handling charges are higher for containers than for other transit modes (with the exception of breakbulk cargo). In addition, inland transport costs are relatively high per ton-mile. Lastly, the commodities transported in containers tend to be high value by weight and volume. The PortKit manual estimates that container movements have nine-times the impacts per ton than bulk shipments.<sup>1</sup>

Figure VII-4. Sales Impacts Under Four Scenarios for the Gulfport Harbor Channel Deepening and Containeryard Expansion Project



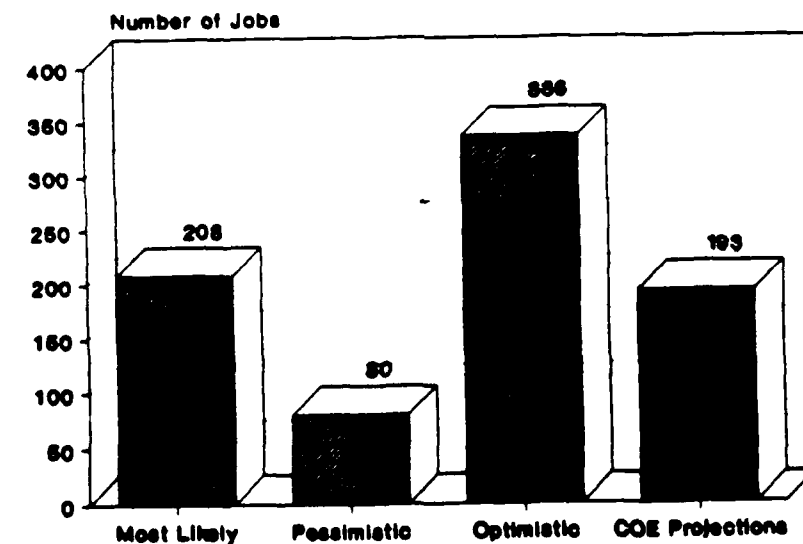
<sup>1</sup>Port Economic Impact Kit, U.S. Department of Commerce, Maritime Administration, prepared by Temple, Barker and Sloane, Inc., 1985, p.30.

Figure VII-5. Income Impacts Under Four Scenarios for the Gulfport Harbor Channel Deepening and Containeryard Expansion Project



Source: Gulf Engineers & Consultants.

Figure VII-6. Employment Impacts Under Four Scenarios for the Gulfport Harbor Channel Deepening and Containeryard Expansion Project



Source: Gulf Engineers & Consultants.

### Projections of Impacts

Base year impacts from the most likely scenario were projected over a 30 year period. Table VII-5 summarizes the overall impacts on an annual basis. Business sales resulting from the project are projected to increase from \$21.3 m. to over \$34.9 m. Income grows to \$10.6 m. from \$6.5 m. Taxes increase to more than \$1.4 m. from \$871,870. Finally port revenues from wharfage, dockage, warehousing and equipment rental show an increase of 53 percent to an annual rate of \$1,317,801.

Table VII-5 also includes average annual equivalent (AAE) and internal rate of return (IRR) calculations. AAE calculations are the standard Corps of Engineers method of comparing costs and benefits. IRR calculations for income and AAE calculations for employment are included for the purpose of project ranking for the state of Mississippi.

Table VII-5. Impact Projections for Gulfport Harbor Channel  
Deepening and Containeryard Expansion Project  
(October, 1989 for all variables except employment)

Year	Sales	Income	Employment	Taxes	Port Revenue
AAE	23,994,753	7,579,646	413	997,536	827,556
IRR	-----	21.6%	---	-----	-----
Base year	21,360,921	6,505,053	351	871,870	804,963
Year 10	24,891,820	7,580,320	409	1,015,987	938,021
Year 20	29,503,613	8,984,751	485	1,204,223	1,111,811
Year 30	34,969,848	10,649,387	575	1,427,333	1,317,801

AAE = Average Annual Equivalent

IRR = Internal Rate of Return

Note: AAE and IRR calculations include the construction period impacts.

Source: Gulf Engineers & Consultants.

**VIII. ASSESSMENT OF FINANCIAL ALTERNATIVES FOR  
PROJECT FUNDING FOR LOCAL SPONSORS**

## VIII. ASSESSMENT OF FINANCIAL ALTERNATIVES FOR PROJECT FUNDING FOR LOCAL SPONSORS

This chapter outlines financial issues of the Gulfport Harbor Channel Deepening and Containeryard Expansion project. Focus will be on sources and uses of funds and cost recovery. Payback or breakeven periods are estimated using (1) state taxes only; (2) state plus local taxes; (3) state and local taxes plus port revenue; and (4) increases in net income inclusive of taxes. Questions surrounding the area needed for containeryard expansion are addressed.

### Sources and Uses of Funds

Table VIII-1 details sources and uses of funds for the channel deepening segment of the Gulfport Harbor project examined in this report. Since the containeryard expansion is not part of the Federally sponsored construction, it is not addressed in this section.

Sources of funds are a single General Obligation Bond issue and a General Revenue Account that must be set aside by the state legislature during the 1990 legislative session and before construction commences. It is assumed that the bond issue will be for 20 years, non-taxable bearing an interest rate of 7.5 percent. The annual cost of such an issue would be approximately \$1.96 m. The state bond rating is presently AA by Standard and Poors. Uses of funds categories are preconstruction engineering and design, pipeline relocation, general navigation, dredging of berthing areas and wharf stabilization.

The schedule of expenditures, both Federal and non-Federal, are listed in Table VIII-2. Expenditures are spread over a four year period with the largest contribution required from the local sponsor in year 2 (1993). Local sponsor fund balances are listed in Table VIII-3. Schedules of expenditures by the state of Mississippi for containeryard expansion are found in Chapter V.

The local sponsor will issue a serial bond for \$13.0 m. at the beginning of the construction period and \$2.0 m. will be earmarked in 1990 from a revenue account for use in Year 4 of construction. Since the disbursements from the state to the Corps of Engineers are made at the beginning of each year for that year's construction costs only, the remaining balance from the bond issue will earn compound interest at an 8.25 percent rate (January 1990 quote for a three year Treasury Bill). Therefore, \$1.387 m. in interest earned will be available in the escrow account for debt service after completion of construction (tables VIII-1 and VIII-3).

Table VIII-1. Sources and Uses of Funds for Proposed  
Gulfport Harbor Deepening Project  
(millions of October, 1989 dollars)

	<u>FY92</u>	<u>FY93</u>	<u>FY94</u>	<u>FY95</u>	<u>TOTAL</u>
<u>Sources of Funds</u>					
General Obligation Bond Issue	13.000	0.000	0.000	2.000	13.000
General Revenue Account	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	<u>2.000</u>	<u>2.000</u>
Subtotals	13.000	0.000	0.000	0.000	15.000
Interest Earnings	0.784	0.361	0.136	0.106	1.387
TOTALS	13.784	0.361	0.136	2.106	16.387
<u>Uses of Funds</u>					
Local Share of PED	0.529	0.000	0.000	0.000	0.529
Pipeline Relocation	1.000	1.527	0.000	0.000	2.527
Local Share of GNF	0.964	3.084	3.084	2.506	9.638
Dredging Berthing Areas	0.000	0.095	0.000	0.000	0.095
Wharf Stabilization	<u>1.000</u>	<u>1.211</u>	<u>0.000</u>	<u>0.000</u>	<u>2.211</u>
TOTALS	3.493	5.917	3.084	2.506	15.000

\*Special appropriation by 1990 Mississippi legislative session.

"PED" = Preconstruction Engineering and Design

"GNF" = General Navigation Features

Source: General Design Memorandum, Gulfport Harbor, Mississippi, U.S. Army Corps of Engineers, Mobile District, 1987; and communication with Mobile District staff.

Table VIII-2. Schedule of Federal and Non-Federal Expenditures  
for Gulfport Harbor Channel Deepening  
(millions of October, 1989 dollars)

<u>FY</u>	<u>FEDERAL</u>	<u>NON-FEDERAL</u>				
		<u>PED</u>	<u>LERRD</u>	<u>Pipeline Relocation</u>	<u>25% GNF</u>	<u>Berthing Area</u>
1992	2.500	0.529	1.000	1.000	0.964	0.000
1993	7.000	0.000	1.211	1.527	3.084	0.095
1994	14.500	0.000	0.000	0.000	3.084	0.000
1995	<u>6.000</u>	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	<u>2.506</u>	<u>0.000</u>
TOTALS	30.000	0.529	2.211	2.527	9.638	0.095

"PED" = Preconstruction Engineering and Design

"LERRD" = Land, Easements, Right-of-Ways, Relocation and Disposal

"GNF" = General Navigation Features

Source: General Design Memorandum, Gulfport Harbor, Mississippi, U.S. Army Corps of Engineers, Mobile District, 1987; and communication with Mobile District staff.

Table VIII-3. Funds Available by Year from State of Mississippi  
for Gulfport Harbor Channel Deepening  
(millions of October, 1989 dollars)

	<u>Begin Balance + Annual Income</u>	<u>Required Annual Construction</u>	<u>Fund Balance</u>
Balance on Hand	13.000		
1st Year Revenues:			
Earned Interest	0.784	3.493	10.291
2nd Year Revenues:			
Earned Interest	0.361	5.917	4.735
3rd Year Revenues:			
Earned Interest	0.136	3.084	1.787
4th Year Revenues:			
Earned Interest	0.106		
General Revenue Account	<u>2.000</u>	<u>2.506</u>	<u>1.387</u>
<b>TOTALS</b>	16.387	15.000	1.387

Source: General Design Memorandum, Gulfport Harbor, Mississippi, U.S. Army Corps of Engineers, Mobile District, 1987; and communication with Mobile District staff.

#### Cost Recovery

The expenditures by the state of Mississippi for the channel deepening and construction of the containeryard expansion were compared to estimates of revenues generated by the project. Revenues (defined as taxes, port revenues and net income to individuals and firms in Mississippi) are generated by construction, increases in income due to reduced transportation costs and port throughput. These direct, indirect and induced impacts are described in chapters V and VII. The most likely scenario tonnage throughput is used as the basis of the analysis (see Chapter VII).

There are several ways of looking at cost recovery for this project. From the point of view of the state of Mississippi it may be that state tax receipts are considered the key relevant comparison. As an alternative the state may take a broader view and accept as relevant state and local taxes or all direct revenues, i.e. state and local taxes and port revenues. The broadest view, and the viewpoint consistent with the prevailing understanding of ports as economic development tools, would take as the point of comparison net income increases to Mississippians.

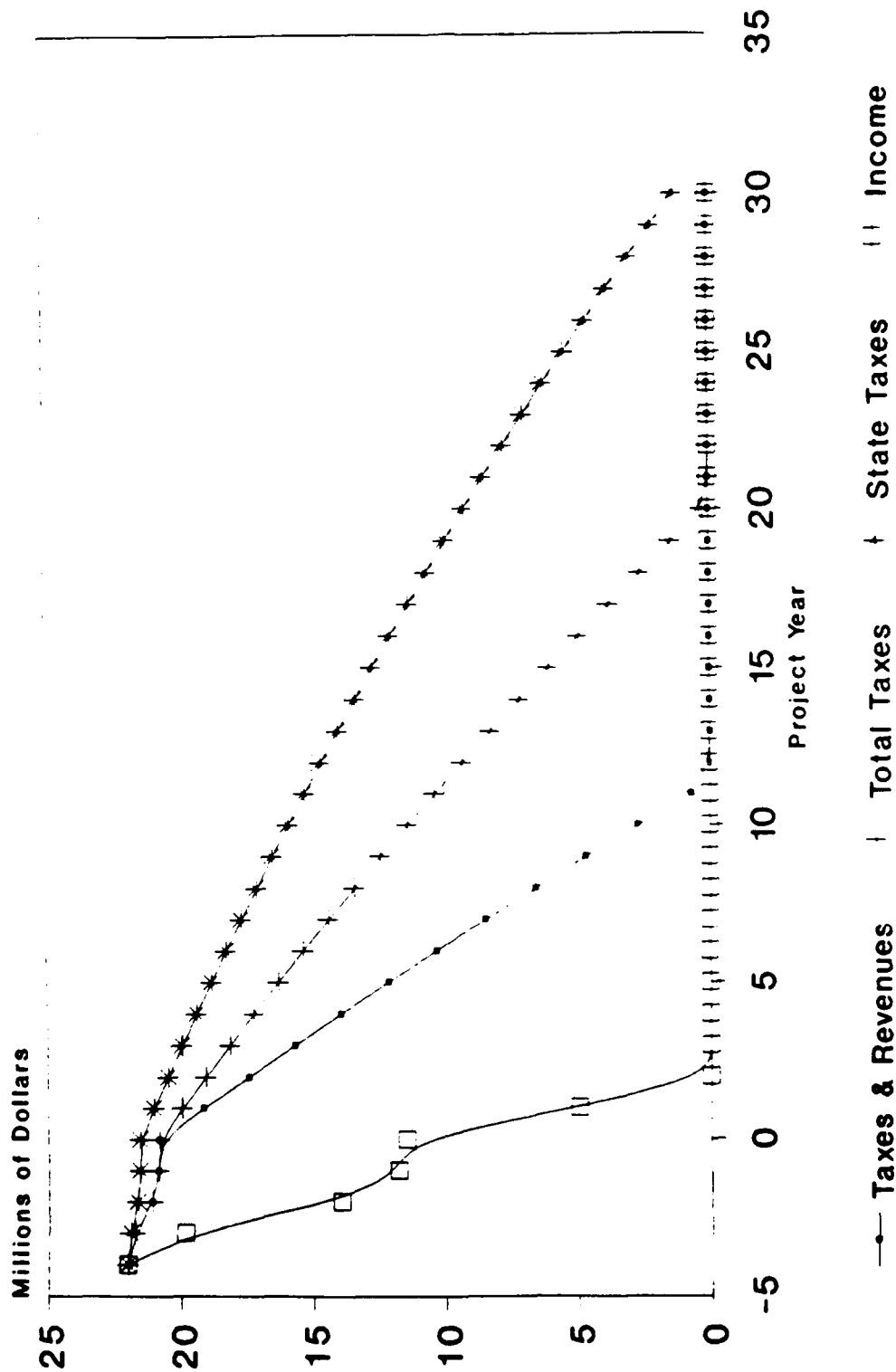
Comparing state expenditures to state receipts has some immediate appeal since the state is concerned with balancing the budget. Unfortunately since there is no connection between revenues generated by the project and project expenses, the comparison is not entirely appropriate. In the case of dedicated funding sources, such as road taxes, comparisons of this type are relevant. For this project, if tax revenues and expenditures matched it would simply be a matter of chance and not the result of a well designed program.

Port revenues are logically and economically a better choice for comparison. Nevertheless the status of ports as economic development tools has led to fee structures that are unable to recover capital acquisition costs. Government units, normally the local port commissions, have reduced wharfage, dockage, storage fees and other port charges to very low levels in order to induce more port tonnage and thereby generate jobs and income. This has been particularly true in the Gulf region where the maritime industry has suffered depressed conditions. For example, the wharfage charge at Gulfport is probably insufficient to cover the full economic costs of the wharf area. Yet wharfage at Gulfport is more than double the rate at the Port of Lake Charles. Under these competitive pressures it is unrealistic to expect that fees will be sufficient to cover project costs under all except the most optimistic scenarios.

Ports are generally considered economic development tools. In these circumstances, additional employment and income are the relevant parameters for comparison. In fact, though, all of the categories of comparison have some legitimacy. Therefore payback periods under different assumptions are presented below.

Figure VIII-1 shows the payback period of the \$22 m. state investment for the four categories discussed above: (1) state taxes; (2) state plus local taxes; (3) state and local taxes plus port revenues; and (4) net income. Years -3 through 0 on the chart represent the construction period. Years 1-30 represent impacts during port operation with the deeper channel and the expanded containeryard. For the broadest category, net income, payback occurs quickly. Approximately one-half of the cost to the state of Mississippi is recovered by income generated during construction (see Chapter V). This occurs because the state pays only a portion of the cost with Federal monies paying the remainder. Income due to port throughput and lower transportation costs, which reaches over \$6.5 m. per annum in year one, is able to payback remaining project cost in the second year of project operation (see Chapter VII).

Figure VIII-1. Payback Period for Gulfport Harbor Deepening and Containeryard Expansion Project



Source: Gulf Engineers & Consultants

The internal rate of return on the \$22 m. investment is 21.6 percent. In terms of average annual costs and benefits (the standard Corps of Engineers method of project evaluation) are \$2.2 m. and \$7.6 m. respectively. Note that the costs and benefits calculated in this study are not the standard COE calculations. They are included for completeness.

Payback takes longer for the other three categories. The combination of taxes and port revenues are able to payback the investment in approximately 12 years of port operation (disregarding years of construction) and all state and local taxes in the twentieth year. Payback by state taxes is essentially complete at the end of the 30 year operational period. It should be emphasized that the actual project life is longer than the 30 year period of analysis chosen here. The 30 year period was chosen because of financial considerations.

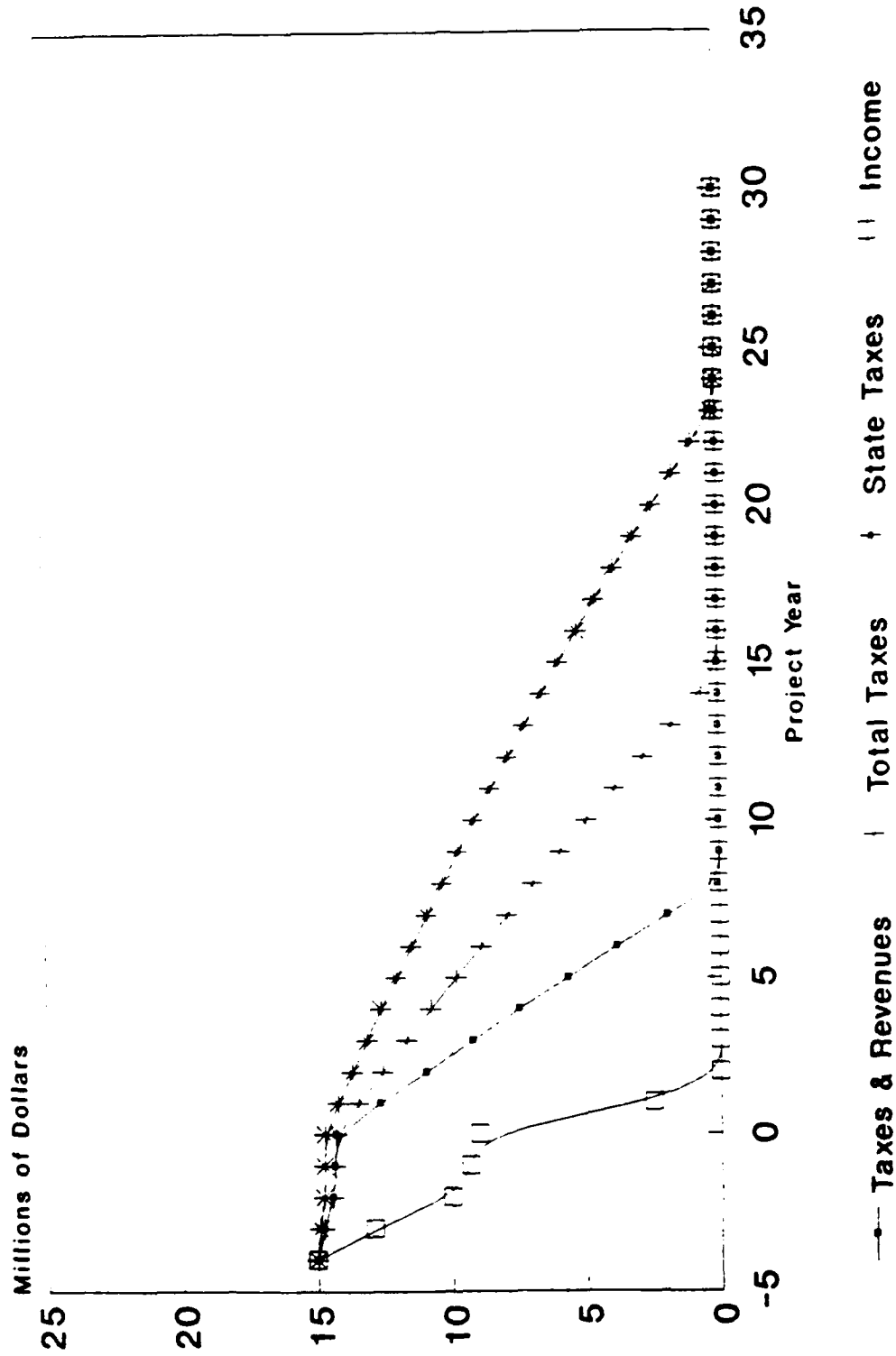
The analysis above includes the cost of expanding the containeryard by 29 acres. This is not part of the Federal project and therefore there is no Federal monetary participation. Since some questions have been raised about whether additional container storage space is needed, the payback or breakeven analysis was redone with only the local sponsor expenses included. This assumes that the port will be able to attract the same amounts and types of cargo without the containeryard expansion.

Under this scenario, the net income payback again occurs in the second year of project operation (Figure VIII-2). The lower initial costs do not lead to an earlier payback since the impacts of construction are reduced. For the other categories, payback occurs several years sooner. Taxes and port revenues payback expenditures in year eight, all state and local taxes in year 16 and state taxes in operational year 23. Again it should be noted that years -3 through 0 on the chart represent the construction period and years 1-30 represent impacts during port operation with the 36-foot channel.

The assumption that additional container space is unneeded is open to question. During the period Trans Freight Lines provided container service to Gulfport, the port and the stevedores loading and unloading the containers were able to work around the limited storage space. Those knowledgeable about the port's facilities, e.g. stevedores and shipping line representatives, all agreed that additional space may be required to induce long term commitments to Gulfport, particularly if more than one container line were attracted to the port.

The calculation of how much space is needed for a fixed number of containers can vary depending upon the assumption about percentage of containers stored on the ground

Figure VIII-2. Payback Period for Gulfport Harbor Deepening Project



Source: Gulf Engineers & Consultants.

versus those stored on a chassis. The most likely case scenario is for 27,580 teu's (twenty foot equivalent unit containers) to transit the port in the base year. If 530 containers per week (27,580/52 weeks) transit the port, three-quarters grounded and one-quarter chassis, industry standards for containeryard space imply that approximately 10.5 acres are needed for storage purposes.<sup>1</sup> In addition, significant space is needed for marshalling areas, roads and other auxiliary purposes. A marine terminal capacity manual published by the Federal Maritime Administration estimates that 0.35 acres of auxiliary area are needed for every one acre of storage space<sup>2</sup>. This implies the need for an additional 3.7 acres for a total of 14.2 acres in the first year of operation with the deeper channel. At the end of the 30 year period used for analysis here, 21.6 acres, including auxiliary acreage, would be needed. At present the port has eight acres of storage and auxiliary areas and so the most likely scenario implies a shortage of 6.2 acres growing to 13.6 acres in the future. Under different assumptions (e.g., changing the grounded/chassis relationship) more acres would be required. A weekly line with a annual throughput double of the numbers used above (or equivalently, two biweekly services) would roughly double the needed acreage.

A review of port facilities across the U.S. failed to reveal a major container port with storage acreage similar to the eight acres Gulfport presently maintains. Twenty to thirty acres per container berth is the most common arrangement found by the study team<sup>3</sup>. Therefore, the industry norms also support the need by Gulfport for more containeryard space.

Perhaps the most important consideration has to do with whether the reduction in project costs is sufficiently attractive to limit the future growth possibilities at Gulfport. In the short term the port *may* be able to respond to needs without additional containeryard space. In the future, though, the port will be locked into drastic limits on growth in container throughput. For example, opening a second container berth to serve additional

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<sup>1</sup>The calculation is based on 75 percent double stack grounded teu's at 240 per acre and 25 percent chassis teu's at 70 per acre. For 530 full teu's the yard may have another 1,325 empties (530 x 2.5). Under these conditions approximately 10.5 acres are needed.

<sup>2</sup>Port Handbook for Estimating Marine Terminal Cargo Handling Capability, U.S. Department of Commerce, Maritime Administration, prepared by Moffat and Nichols, 1979, p.150.

<sup>3</sup>See for example the description of facilities in Modern Marine Terminal Operations and Management, 1983.

customers would be impossible since no storage space would be available for the containers. The port would be very limited in attracting containers beyond the level of the TFL service. The optimistic tonnage throughput scenario outlined in Chapter VII implies more containers annually than the present storage space could accommodate. In addition, no space would be available for adding an Intermodal Container Transfer Facility to improve ship to rail movements.

Only under the most optimistic scenario is the entire additional space required. Therefore it may be possible, though the study team has not discussed the issue with the engineering firm familiar with the project, to add less than 29 acres of new storage and reduce the costs accordingly. It seems likely that some of the surfacing expense could be foregone until needed without endangering the success of the project.

## **IX. REPORT SUMMARY AND CONCLUSIONS**

## IX. REPORT SUMMARY AND CONCLUSIONS

This report has described the economic impacts that are likely to occur from the deepening of Gulfport Harbor to 36 feet and the expansion of the containeryard storage space by 29 acres at the Mississippi State Port Authority at Gulfport. Total project cost is estimated to be approximately \$52 m. of which \$45 m. is for the Federally cost-shared channel deepening. Total expenses to the state of Mississippi are estimated to be \$22 m. Impacts were calculated for the local area (Harrison, Hancock and Jackson counties) and for Mississippi. For the purposes of this study, these counties are considered a single economic entity, but most of the impacts in the local area will occur within Harrison County. In this report the terms "local" and "regional" are used interchangeably.

The impact analysis is based on application of the Maritime Administration port economic input-output impact model, PortKit. The model calculates impacts of port activity on business sales, income, employment and taxes. Port revenues and direct impacts of port related activity are also generated. Properly applied, PortKit allows the researcher to develop multipliers of economic variables with more detail than a general purpose model.

Interviews of present and potential port clients were completed to provide the required inputs for the PortKit model. Container shipping lines were interviewed to ascertain the possibilities for container traffic at Gulfport Harbor. The interviews found significant interest in the port and the deepening project.

Estimates of impacts from the project were made for three areas: (1) construction; (2) net increases in income from lower transportation costs; (3) and port throughput. Construction benefits are one time impacts occurring during the construction period. Categories 2 and 3 are permanent, annually recurring benefits. Results are based on the 1995 completion date used in the General Design Memorandum.

Construction impacts are summarized in Table IX-1. Direct expenditures in Mississippi are expected to total \$15.3 m. and lead to \$24.4 m. in business sales, \$10.5 m. in income to employees and firms in Mississippi and 617 jobs over the thirty four month construction period. Approximately 80 percent of the sales and income impacts and 84 percent of the jobs are expected to occur in the three county area. State and local taxes are projected to increase by \$1.2 m. with \$0.7 m. remaining in the local area.

**Table IX-1. Summary Impacts of Construction for Gulfport Harbor  
Channel Deepening and Containeryard Expansion**  
(millions of October, 1989 dollars except for employment)

Area	Business Sales	Income	Employment	Taxes
State	24.4	10.5	617	1.2
Local Area	19.4	8.2	516	0.7

Source: Gulf Engineers & Consultants.

Permanent impacts from lower transportation costs and port throughput will grow as port throughput grows. Lower transportation costs should make Mississippi producers more competitive and increase income and employment.

Summary impacts from lower transportation costs and increased port throughput are presented in Table IX-2. Base year impacts include increases in sales of \$21.4 m., income of \$6.5 m., employment of 351 and tax receipts of \$0.9 m. These impacts are annually recurring and in fact should increase as tonnage increases.

Over time the construction, net income and throughput impacts can be compared to project expenses in order to calculate cost recovery or payback periods. Under the most likely scenario, increases in net income to Mississippians pay back the investment made by the state of Mississippi after two years of port operation with the deeper channel. For cost recovery from taxes and port revenue, the break even point occurs after eight years of port operation. State tax receipts recover costs near the end of the thirty year period of analysis.

**Table IX-2. Summary Annual Impacts for Gulfport Harbor Deepening and  
Containeryard Expansion Project, Most Likely Scenario**  
(October, 1989 dollars except for employment)

Category	Local Impacts	State-Wide Impacts
Sales	18,788,445	21,360,921
Income	5,629,597	6,505,053
Employment	315	351
Taxes	494,983	871,870

Source: Gulf Engineers & Consultants.

**Appendix A**

**GULPORT HARBOR IMPACT STUDY  
INTERVIEW FORM**

**Appendix A**  
**GULFPORT HARBOR IMPACT STUDY INTERVIEW FORM**

Gulf Engineers and Consultants  
535 Main Street  
Baton Rouge, LA 70802

Under contract with the U.S. Army Corps of Engineers, Mobile District and in cooperation with the Mississippi State Port Authority at Gulfport, Gulf Engineers and Consultants is conducting interviews to help determine the impacts of Gulfport Harbor on the local and state economies. Your cooperation in this effort will provide input for the decision-making process on harbor improvements.

Company Name \_\_\_\_\_

Telephone Number \_\_\_\_\_

SIC Code \_\_\_\_\_

City \_\_\_\_\_

County \_\_\_\_\_

Contact \_\_\_\_\_

Contact's Title \_\_\_\_\_

Date \_\_\_\_\_

**SHIPPERS INTERVIEW FORM**

If more than one product is shipped through Gulfport harbor, please use separate interview forms for each commodity.

(1) What do you ship through Gulfport Harbor?

(2) Is it imported or exported?

(3) Type of ship:

\_\_\_\_\_ Dry Bulk

\_\_\_\_\_ Liquid Bulk

\_\_\_\_\_ Breakbulk

\_\_\_\_\_ Container

\_\_\_\_\_ Other (specify) \_\_\_\_\_

- (4) Number of vessel calls per year (please use latest year available, calendar or fiscal, and note below)

\_\_\_\_\_ Year \_\_\_\_\_ Year: Fiscal \_\_\_\_ Calendar \_\_\_\_

- (5) Tonnage, by vessel type:  
circle relevant tonnage measure:      short   long   metric

\_\_\_\_\_ Dry Bulk

\_\_\_\_\_ Liquid Bulk

\_\_\_\_\_ Breakbulk

\_\_\_\_\_ Container

\_\_\_\_\_ Other (specify) \_\_\_\_\_

IF RELEVANT AND KNOWN PLEASE FURNISH THE FOLLOWING COST DATA

- (6) Average charge per vessel:

\_\_\_\_\_ Tug charge

\_\_\_\_\_ Pilotage

\_\_\_\_\_ Mooring

\_\_\_\_\_ Dockage

\_\_\_\_\_ Wharfage

\_\_\_\_\_ Terminal Charge

\_\_\_\_\_ Warehousing

\_\_\_\_\_ Other Vessel Charges

\_\_\_\_\_ Total (if detail unavailable)

- (7) Average stevedoring/handling cost per ton:

\_\_\_\_\_

Container stripping/stuffing cost (if applicable)

\_\_\_\_\_

- (8) Shipping agency data:

\_\_\_\_\_ Vessel Handling Fee

(9) Do the vessels bunker at the port (percentage)?

\_\_\_\_\_ %

(10) Ultimate destination(s) of this product (if imported):

\_\_\_\_\_ % Percent that stays in Harrison, Hancock, and Jackson counties

\_\_\_\_\_ % Percent that stays in Mississippi, but outside of Harrison, Hancock, and Jackson counties.

(11) How is it transported to/from the port?

\_\_\_\_\_ % By Rail

\_\_\_\_\_ % By Truck

\_\_\_\_\_ % By Barge

\_\_\_\_\_ % Not Transported

(12) Average haul distance (in miles):

\_\_\_\_\_ Rail

\_\_\_\_\_ Truck

\_\_\_\_\_ Barge

(13) Average rate -- estimate the **average cost per ton mile**:

\_\_\_\_\_ Rail

\_\_\_\_\_ Truck

\_\_\_\_\_ Barge

(14) If cargo is shipped by truck, is the trucking company based:

\_\_\_\_\_ Within Harrison, Hancock, and Jackson counties

\_\_\_\_\_ Outside Harrison, Hancock, and Jackson counties but within Mississippi

\_\_\_\_\_ Outside Mississippi

- (15) Is the import cargo further processed in Mississippi?

If so, where? \_\_\_\_\_

What is done to it? \_\_\_\_\_

Name/phone number of contact at processing plant \_\_\_\_\_

- (16) How many employees do you have? (full time equivalent)

\_\_\_\_\_

- (17) Where do they live?

\_\_\_\_\_ % Within Harrison, Hancock, and Jackson counties

\_\_\_\_\_ % Outside Harrison, Hancock, and Jackson counties but within Mississippi

- (18) What percentage of your sales/output is related to the product being imported or exported through Gulfport Harbor?

\_\_\_\_\_ %

- (20) For your operations in the Gulfport area (only the operations at the facility importing or exporting through the Port), please provide data for your most recent fiscal or calendar year. Your responses will be held confidential and will only be disclosed in consolidated form:

Gross Revenues \$ \_\_\_\_\_

Payroll \$ \_\_\_\_\_

Taxes Paid:

State \$ \_\_\_\_\_

Local \$ \_\_\_\_\_

- (21) If the channel at Gulfport Harbor were deepened to 36 feet what would be your likely response? (check all that are appropriate)

More tons shipped \_\_\_\_\_

Use larger ships \_\_\_\_\_

No change \_\_\_\_\_

Other \_\_\_\_\_ (specify) \_\_\_\_\_

- (22) Do you have any final comments on Gulfport Harbor (e.g., port performance, areas of success, areas where improvement is possible)?

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Thank you for your cooperation. If you have any questions or comments please contact Jeff Fortenberry, Chris Beacham or Jim Hoover at Gulf Engineers and Consultants, (504) 343-3812. For confirmation purposes please contact Ms. Evelyn Brown at the Mobile District, U.S. Army Corps of Engineers, (205) 694-3845.

**Appendix B**

**CONTACTS FOR GULFPORT HARBOR IMPACT STUDY**

**Appendix B**  
**Contacts for Gulfport Harbor Impact Study**

ABC Container Lines	Bill Hagenzieker
Overseas Freight	Jim Spano
PRMMI, Navieras de PR	R. Ruchalski
Biehl Shipping Agents	John Willis
American Container Lines/Gulf Container Lines	John Rafferty
Lykes Line	M.G. Bulluch
ITO Stevedoring	Mike Wrenn
MidSouth Railroad Corporation	John Staley
	W.O. Kelly
	Allen Hawkins
Columbus Lines	Marco Pacello
InterOcean Steamship Corporation	Tom Bjornsen
Maersk Lines	J.T. Smith
	Ed Harren
Standard Fruit and Steamship (Dole)	R.E. Finley
	Nina Gorigin
	Doug Martin
United Brands (Chiquita)	R.B. Tournillion III
E.I. duPont	C.T. Tuttle
	Ron Root
	David Stanford
International Proteins	Harvey Borders
Goldin Industries	Jack Goldin
Southern Scrap	Arthur Jay
	Al Howard
	Richard Smith
Newman Lumber	Roy Newman
Leaf River Forestry Products	Dick Zdzimborski
Munno Petroleum, Inc. (bunkers)	Andy Carrsan
Roberts and Oake, Inc. (forwarders)	
Temple, Barker, Sloane, Engineers	David Bovet
Illinois Central Railroad	Fred Bulinger

**Appendix B, cont.**  
**Contacts for Gulfport Harbor Impact Study**

CSX Corporation

Norm Going  
Sonny Lusk  
Jimmy Black

Journal of Commerce

John Murphy

Simpkins & Costelli, Inc. Consulting Engineers

Harry M. Simpkins

Harrison County Development Commission

Michael Olivier

Mississippi State Tax Commission, Fuel Tax Section

George Higdon

Mississippi State Highway Department

Gene Phillips

Mississippi Department of Economic Development

Noel Guthrie

Mississippi Institutions of Higher Learning

Dr. Paul Warner

**Appendix C**  
**GULFPORT MARKETING OUTLINE**

## Appendix C Gulfport Marketing Outline

### INITIAL MARKETING PLAN

- I. Organize a Marketing Department
- II. Set up a marketing budget
- III. Build additional space  
(see attached drawing)
- IV. Analyze the market:
  - A. Do an import/export analysis as shown  
on the report for Australia - New Zealand  
market.  
  
(Reports are available for all trade routes.)
  - B. Survey all import/export companies in  
Mississippi. (Sample survey is attached).  
  
Note: Over 900 companies are to be surveyed.
- V. Prepare cost comparisons for targeted accounts  
(shipping lines). A sample for Columbus America  
is enclosed.
  - A. Major trade routes and line service required.  
  
(To be determined by Customer survey)
    - 1. Puerto Rico
    - 2. Central America
    - 3. South America
    - 4. Mediterranean
    - 5. Northern Europe
    - 6. Australia
    - 7. Far East
    - 8. Africa
    - 9. Eastern Bloc Countries

B. Major Commodities to either acquire or increase

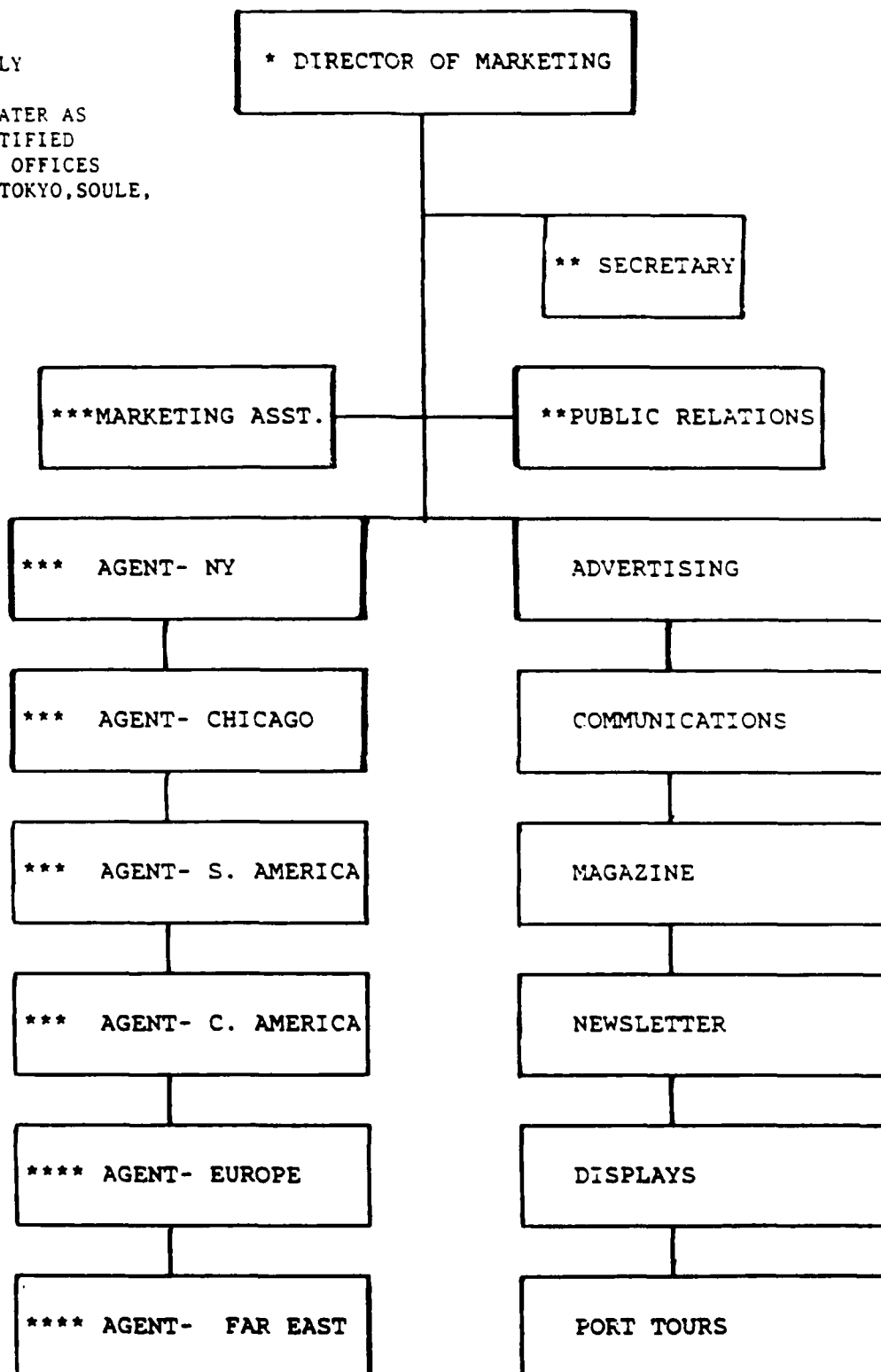
1. Imports

- a. Automobiles
- b. Foodstuff
- c. Exotic lumber
- d. Chemicals & Lumber
- e. Steel products
- f. Boats
- g. Wine and cheese
- h. Electronics (TV & etc.)

2. Exports

- a. Forest products
- b. Textiles
- c. Foodstuff
- d. PL 480 cargo
- e. Scrap metal

\*NEED IMMEDIATELY  
\*\*IN PLACE  
\*\*\*TO BE FILLED LATER AS  
NEEDS ARE IDENTIFIED  
\*\*\*\*WILL USE EDC'S OFFICES  
IN FRANKFORT, TOKYO, SOULE,  
AND BEIJING.



# ANNUAL MARKETING BUDGET

## \* Salaries:

Director of Marketing	49,000
fringes	14,700
Public Relations/	
Communications Dir.	40,000
fringes	12,500
Secretary	14,000
fringes	<u>4,200</u>
Total	\$135,400

## Travel:

Automobiles	10,000
Airlines/Hotels, etc.	<u>25,000</u>
Total	\$35,000

## Printing & Supplies:

Magazine (4 Times Per Year)	30,000
Sale of ads in Port Magazine	- 12,000
Newsletter	1,500
Office supplies	<u>1,200</u>
Total	\$20,700

Communications:

Telephone & Fax	12,000
Express Mail	2,000
Dues & Subscriptions	600
Clipping Service	<u>500</u>
Total	\$15,100

Business Promotion:

Four Color Brochure	10,000
Promo gift items	20,000
Entertainment	25,000
Port Video	5,000
Advertising	<u>150,000</u>
Total	\$210,000

TOTAL ANNUAL COST -	\$416,200
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START UP CAPITAL EXPENSE

Desk top publishing	9,600
Office furniture	10,000
Office construction	50,000
New automobiles	<u>30,000</u>
Total	\$109,600

\* Outside agencies will cost approximately \$50,000 each per year. Numbers cannot be estimated until we see how much we can use E.d.'s overseas offices.

Mid America's  
**GULFPORT**  
MISSISSIPPI STATE PORT AUTHORITY AT GULFPORT

Date:

Name  
Title  
Address

Dear Sir/Madam:

The Mississippi State Port Authority is attempting to increase liner service to/from various foreign ports with Gulfport. We believe our efforts will result in transportation savings for your business. Please help us in our efforts by completing our short questionnaire and returning it in the enclosed envelope.

Yours for a more prosperous Mississippi.

MISSISSIPPI STATE PORT AUTHORITY  
AT GULFPORT

Sincerely,

William W. Edwards  
Executive Director

WE/Dr

Enclosures

COMPANY NAME: \_\_\_\_\_  
CONTACT PERSON: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

To which countries do you import/export?

Import	Export
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____

How do your products move?

1. Break bulk	_____
2. Bulk	_____
3. Refrigerated	_____
4. Containerized	_____
5. Other	_____

How do your products move inland?

1. Truck	_____
2. Rail	_____
3. Air	_____

What are your annual volumes?

1. Less than 50 tons	_____
2. 50 - 100 tons	_____
3. 100-500 tons	_____
4. 500 tons or more	_____

How often do you ship or receive foreign?

1. Daily	_____
2. Weekly	_____
3. Bi-weekly	_____
4. Monthly	_____
5. Other	_____

What U.S. Ports do you currently use?

1. Gulfport	_____
2. Pascagoula	_____
3. Mobile	_____
4. New Orleans	_____
5. Other	_____

Would you be interested in more information about  
Gulfport and our efforts to better serve you?

Yes	_____
No	_____

**Appendix D**  
**GULFPORT MARKETING PLAN**

## Appendix D Gulfport Marketing Plan

### MISSISSIPPI STATE PORT AUTHORITY at GULFPORT 1989 MARKETING PLAN

The marketing plan for the Port of Gulfport must be both *comprehensive* and *multi-faceted*. The plan must be comprehensive in that it must include every aspect of the marketing equation involving the flow of international commerce from point of origin to point of destination. The plan will be multi-faceted in that several different marketing techniques will be utilized to achieve the desired results. A successful marketing plan is composed of two elements: identification and education. Our task is to identify all of the key players in the marketing equation and then to educate them about the advantages of using the Port of Gulfport.

In recognition that passage of the Staggers Act fundamentally altered control over the routing of cargo in international commerce, shifting control from the shipper or consignee to the steamship line, the major portion of the marketing program must be directed to the *steamship lines*. Secondly, the marketing program will be directed to *commodity groups*, but this will be primarily for bulk and neo-bulk commodities which will move on irregular or tramp vessels. This group will encompass what is generally called breakbulk cargo. In this group, *shippers and consignees* are the key targets although secondary parties such as stevedores and inland transportation can play a critical role.

*Passenger service*, either for the day cruise or international cruise variety, has also come to be an important generator of revenue for the Port and ways to enhance this service will be part of the marketing program.

*Value added services* can be an important magnet to pull steamship lines to the Port and these services will be identified and solicited for the port. Such services as bagging, processing and packaging of various types of commodities provide a ready source of cargo and makes a port attractive to steamship lines. Frequently a steamship line will use this type of cargo as base cargo and will then route other cargoes to the port to fill out the vessel. The existence of an FTZ is also a positive factor.

#### MARKETING - STEAMSHIP LINES

A primary principle of marketing is that the quickest and largest profit potential will come from an existing operation. "Green field" operations typically are slow to make a contribution and even then are more uncertain. Adapting this principle to the 1989 Market Plan means that the primary focus of our program must be directed to existing, successful steamship lines presently operating from competing ports within the region. This does not mean that

**MISSISSIPPI STATE PORT AUTHORITY at GULFPORT  
1989 MARKETING PLAN**

new lines will be neglected, but that the largest market will be existing regional operations. In actual practice, this will mean that our primary market will come from steamship lines presently serving the ports of New Orleans, Baton Rouge, Pascagoula and Mobile. Our secondary market will come from operators presently serving other regions such as the South Atlantic. There will be a small residue market of operators not presently serving any U.S. port, but who are successful operators in other areas of the world. The marketing program will address each of these situations.

As indicated, the primary steamship line marketing effort must be directed towards those lines presently operating within the same region as the Port of Gulfport. In an effort to establish a customer base within the State of Mississippi, the Port sent out a detailed questionnaire to some 900 firms located within the State. 112 of the 171 responses received requested further information as to how the Port of Gulfport could assist them in shipping their products to foreign destinations or could utilize the Port of Gulfport in importing their products from foreign locations. In conjunction with information from the Journal of Commerce P.I.E.R.S., a substantial data base has been created. This data base will be used to match shippers/consignees and steamship lines which have indicated an interest in serving Gulfport. An annual "international trade fair" should be established in which the top 50 exporters and importers would be invited along with representatives from the steamship lines who have expressed an interest in serving the Port or which are being approached by the Port to determine their interest.

In order to market the Port to regional steamship lines, it will be necessary to travel to the headquarters of these steamship lines. With few exceptions, the decision makers of these regional carriers are not located in nearby ports. It will be necessary to travel fairly extensively in meeting with these companies. Accordingly, a travel budget of some \$15,000 will be required in order to meet with the decision makers of potential customers of the Port. The budget will be allocated as follows:

Houston	\$ 500.00
Atlanta	1,500.00
New York	5,000.00
Puerto Rico	2,000.00
Europe	<u>6,000.00</u>
	\$15,000.00

A second marketing expense involved in soliciting steamship lines to the Port is that of advertising. A major obstacle for the Port to overcome is that of general recognition of the Port by the shipping public. Flanked by

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New Orleans on the west and Mobile on the east, the Port of Gulfport is not well known to the shipping public. Many interior shippers and consignees have never heard of the Port. Steamship lines are reluctant to serve a port which is not known by their customers. Conversely, shippers and consignees are reluctant to ask a steamship line to call at Gulfport if they are dealing with an unknown and in their eyes, unproven port facility. In order to overcome this situation, it will be necessary to conduct an aggressive advertising campaign. The recommended advertising budget is as follows:

Daily Shipping Guide	\$5,000.00
Atlanta Intermodal Expo	1,500.00
Shipping Digest	2,500.00
Journal of Commerce	8,000.00
Publication of Manifest	12,000.00
Port Video Tape	20,000.00
Brochures & Flyers	5,000.00
Other Ads	5,000.00
Misc.	<u>1,000.00</u>
	<b>\$60,000.00</b>

Identification is a key element in any market plan. The Port does not have a viable data base of shippers/consignees and steamship lines. It will be necessary to acquire such a data base. Only by having such a data base can the sales effort be directed to those shippers and consignees in a position to utilize the port's facilities. It is necessary to sharply focus the marketing and sales effort of the port given the limited resources available. Further, it is not possible to develop any type of sales strategy without a viable data base. The Journal of Commerce sells a service called P.I.E.R.S. which is a record of all waterborne shipments in the international commerce of the U.S. This data base gives the name of shippers/consignees, their city and state, the commodity, the port of exit or entry, the steamship line, the unit of package and the weight in pounds. In short, they capture all of the information filed by the steamship lines with the U.S. Customs. Such a data base can be sorted by each of the variables listed to produce very useful information in a marketing plan.

The cost of a data base such as P.I.E.R.S. is \$25,000.00 annually based on complete 1988 and 1989 data for the East Gulf and South Atlantic port range, the primary competitors of Gulfport. It is not necessary initially to go to a full blown computerized system as the Journal of Commerce will produce customized reports on demand. Nevertheless, the full \$25,000.00 is requested since very little in-house data exists and extensive reports will be required to establish the data base.

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Port pricing is also a method whereby small operators, particularly those serving the Caribbean and Central American areas, can be encouraged to use the Port. Frequently these operators are under-capitalized and experience cash flow problems in the start up period. By offering a rate for port services based solely on volume with no minimums or guarantees by the operator, the small operator will be encouraged to use the Port. As the service grows, the Port would share in the increased revenues.

### MARKETING-COMMODITY GROUPS

The marketing of commodity groups is even more depend on having an adequate data base than is steamship line marketing. The marketing of commodity groups depends on careful analysis of cost conditions that exist in rival ports, inland transportation costs and equalizing steamship line ocean freight rates. To this end, a knowledge of the interior location of the exporter or importer is vital. With a data base such as P.I.E.R.S., this location can be determined. Further, data on steamship lines presently being used by the shipper/consignee can be determined as well as ports customarily used. With this information, an effective port pricing policy can be established which can: (1) overcome an adverse inland transportation rate; (2) overcome a more competitive rate offered by a competing port. Naturally, when adverse rates are uncovered in the inland transportation action can then be taken to persuade the inland carrier(s) to be come more competitive vis a vis the competing port(s). If the problem is a non-competitive steamship rate, the carrier or conference can be approached to equalize the rate among ports in the same range or to at least remove some of the disadvantage. Then the port pricing policy can be established to permit the port to be competitive.

### SALES

With the small size of the port staff, implementing the marketing plan will require that the port executive staff double in sales. To this end, the Executive Director, the Deputy Director and the Director of Marketing will be actively engaged in implementing the marketing plan. However, it is not possible that the plan could be fully or effectively implemented under this scenario. To overcome this deficiency, agents will be engaged to represent the port in two areas of the country. The major point of control for both steamship lines and commodities is New York and the mid-West (Chicago). The majority of the cargoes entering international commerce are controlled in these two areas. It is imperative that agents be appointed to represent the port in these two areas. These agents would be people who will normally represent more than one client on a no conflict basis. Agents will be individuals who have built up a rapport with the shipping public over a long period of time

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and will have access to decision makers in the shipping process. The agents will work under the direction of the Director of Marketing so as to implement the marketing plan.

Cost of the agents will be \$72,000.00 per year in retainer, plus \$8,000.00 per year in entertainment and travel expense.

**1989 MARKET PLAN OBJECTIVES**

The objectives of the 1989 Marketing Plan are as follows: (1) secure a major container operator who will provide weekly service at the port of Gulfport and who will have a container volume of at least 100 TEUS in and 100 TEUS out each week; secure several small container operators who will have a volume of 200 TEUS every two weeks; (2) secure several breakbulk operators who will be primarily commodity carriers, i.e. timber, lumber, liner board, woodpulp, iron and steel, natural rubber; (3) obtain a reasonable market share of: the forest product exports from the Gulf; natural rubber imports that customarily flow through Gulf ports; cotton exports from the immediate hinterland of the port; an increased share of U.S. Government AID cargoes; hardwood and plywood imports that presently move through competing Gulfports; bagged and other cargoes such as drummed salad oil; an increasing market share of Central American fresh fruits and vegetables; (4) enhancement and addition to the existing passenger service to include more international cruises; (5) encouragement of more value-added services at the port such as drumming, etc.

**Appendix E**

**MIDSOUTH RAILROAD RATE SHEET**

# **Appendix E** **MidSouth Railroad Rate Sheet**

visions herein will not result in an effect on quality of human environment or energy consumption.

MSRC 8000		MIDSOUTH RAIL CORPORATION		3RD REVISED PAGE 17		
SECTION 1 RECIPROCAL SWITCHING CHARGES						
ITEM	APPLICATION					
1000	APPLICATION OF SECTION 1					
A. This Section contains reciprocal switching charges applicable at stations on this railroad.						
B. Reciprocal switching is hereby defined as a switching movement between private or assigned sidings or team tracks named in Section 2A and interchange tracks with connecting lines on shipments originating at or destined to points beyond the switching limits of the station at which the switching movement is performed.						
C. For definition of switching limits applicable to reciprocal switching, see Section 2A.						
D. For definition of group numbers, see Section 2A. Industries or assigned sidings not provided with a group number are closed to reciprocal switching.						
RECIPROCAL SWITCHING CHARGES (FOR APPLICATION, SEE ITEM 1000)						
ITEM	STATION	BETWEEN CONNECTION WITH	AND INDUSTRIES AND ASSIGNED SIDING IN GROUPS	RATES IN DOLLARS PER CAR (Except as noted)		
				<A>	<N>	EXCEPTIONS
1010	Bossier City, LA (Via Shreveport, LA)	KCS LA MP	1	<P> 132 <P> 163	<P> 132 <R> 163	- -
		SP SSW	1	83	132	- -
1015	Monroe, LA	ALM	1	119	132	- -
			2	155	170	- -
		MP	1	119	132	- -
			2	The MP performs its own switching.		
1020	Shreveport, LA	KCS LA MP	1	<P> 132 <R> 163	<P> 132 <R> 163	- -
		SP SSW	1	83	132	- -
1025	Tallulah, LA	MP	1	119	132	- -
			2	The MP performs its own switching.		
1030	Gulfport, MS	CSXT	1	252	252	1040
			2	252	252	- -
1035	Meridian, MS	MBRR	1	140	140	- -
		SOU	1	140	140	- -
1040	EXCEPTION					
Reciprocal Switching Between CSXT and Group 2 will be \$150.00. Not Subject to X088-C or X089 (.006%), but is subject to subsequent increases.						
This Item Expires with August 3, 1990.						
ISSUED: JULY 19, 1989						
EFFECTIVE: JULY 20, 1989						
ISSUED BY: J. R. Staley, V.P.-Trf. Pub. Officer, 111 E. Capitol Street, Jackson, MS 39215.						
For explanation of abbreviations and reference marks, see last page of tariff.						

Correction 3